

The Medical Officer of Health **City & County of Bristol**

R C WOFINDEN, MD, FRCP, DPH, DPA



1972
REPORT FOR



Digitized by the Internet Archive
in 2017 with funding from
Wellcome Library

<https://archive.org/details/b28956618>



**THE HEALTH
SERVICES OF BRISTOL
IN 1972**

THE HEALTH OF BRISTOL IN 1972

CONTENTS

	Page
INTRODUCTION BY MEDICAL OFFICER OF HEALTH - - -	5
VITAL STATISTICS AND EPIDEMIOLOGY - - - - -	14
VENEREAL DISEASES - - - - -	34
HEALTH CENTRE DEVELOPMENT - - - - -	35
MATERNAL AND CHILD HEALTH SERVICE - - - - -	37
NURSING SERVICES REPORT - - - - -	44
HEALTH EDUCATION - - - - -	47
BRISTOL HOME SAFETY COUNCIL ANNUAL REPORT 1972 - -	50
AMBULANCE SERVICE - - - - -	52
CARE AND AFTER CARE - - - - -	57
CHIROPODY - - - - -	61
OCCUPATIONAL HEALTH SERVICE - - - - -	64
OCCUPATIONAL HEALTH SOCIAL WORK - - - - -	67
ENVIRONMENTAL HEALTH SERVICES - - - - -	70
THE REPORT OF THE PUBLIC ANALYST, SCIENTIFIC ADVISER AND OFFICIAL AGRICULTURAL ANALYST - -	111
VETERINARY OFFICER'S REPORT 1972 - - - - -	148

THE HEALTH SERVICES OF BRISTOL 1972

My Lord Mayor, Ladies and Gentlemen,

I have the honour to present my seventeenth Annual Report on the health of the City and County of Bristol, which is compiled in accordance with Department of Health and Social Security Circular 1/73.

Vital Statistics

The estimated mid-year population of the City was 421,580 compared with the 1971 Census figure of 425,115. There were 4,853 births compared with 5,620 in 1971. There were fewer births in all age and parity groups and in all parts of the City. It is thought that socio-economic uncertainties might have been linked with this trend, which has continued in 1973. There was a small decline in illegitimate births, but they accounted for 12·2% of the total compared with 10·9% in 1971.

There were 1,049 legally induced abortions in 1971, compared with 1,012 in 1970 and 671 in 1969. Of these women 595 were single, 376 married and 78 were classified in other ways. Of the total 33 were aged under 16 years and 267 between 16 and 19 years. Most of the abortions were carried out in the home region, 657 in N.H.S. hospitals and 48 in non-N.H.S. hospitals.

There was a rise in foetal and infant mortality, which was disappointing after the very good experience in 1971. The stillbirth rate was 14 (12 in 1971), the perinatal mortality rate 23 (21 in 1971) and the infant mortality rate was 21 (17 in 1971). There was one maternal death, the result of an abortion carried out in a N.H.S. hospital.

Closer study of infant mortality showed that while neonatal mortality remained stable, the post neonatal mortality rate showed sharp increase. In view of the increases in the number of deaths from ill defined causes ('cot deaths') and congenital malformations, a Working Group representative of obstetrics, paediatrics and community medicine, was set up with the approval of the Chief Medical Officer of the Department of Health and Social Security, to study this problem. It seems clear that each post neonatal death must be studied in the same detail as every perinatal death at Southmead Hospital is analysed to determine whether there is any avoidable factor.

In comparison with 11 of the largest County Boroughs in England and Wales, Bristol had the lowest adjusted death rate, notification rate for respiratory tuberculosis and death rate from all forms of tuberculosis.

Numbers of deaths from ischaemic heart disease have continued to rise (1,526 in 1972 compared with 1,361 in 1971), although the rate of increase in men has slackened from 1969, with the result that female deaths now approximate more closely to the number of male deaths. The number of deaths from cancer of the lung increased to 283 compared with 265 in 1971.

Infectious Diseases and their Prevention

There was a generally low incidence of infectious diseases. For the twenty-third consecutive year there was no case of diphtheria in Bristol, and for the eleventh year none of poliomyelitis. There were only 22 cases of whooping cough compared with 296 in 1971, and this satisfactory trend, which has continued in 1973, is possibly linked with the use of improved vaccines in recent years.

The percentages of children born in 1970 and vaccinated by 31st December, 1972, were 95 for diphtheria, 93 for poliomyelitis and 94 for whooping cough, comparing very favourably with the figures for England as a whole, which were 81, 80 and 79%

respectively. Acceptance rates for B.C.G. vaccination (83% in local Education Authority's schools and 85% in Independent Schools) were satisfactory, and the natural conversion rate of 7.1% was very similar to that in 1971.

Tuberculosis remains a very important and largely preventable infectious disease and in 1972 there were 74 cases (62 Pulmonary) and 8 deaths (6 Pulmonary). There were only three notifications of tuberculosis amongst persons under the age of 20, representing 4.8% of all cases of pulmonary tuberculosis, and in two it was found that there were close household contacts in an infectious state. Most of the people on the tuberculosis register were aged between 35 and 64, men predominating amongst those suffering with pulmonary disease. There were ten new patients excreting resistant Tubercle Bacilli in 1972, and with two old cases from 1970 and 1971, there were altogether 12 resistant cases at the end of 1972. Experience shows that with proper adjustment of chemotherapy, most resistant cases respond satisfactorily and are controlled within one year. Persistence of resistance beyond one year is usually due to lack of co-operation by the patient. *It was reported that 63 new cases of tuberculosis were admitted to general hospitals in Bristol during the quinquennium 1968/72. There were 9 deaths, and 6 of these occurred eleven days or less after admission. However, it seems likely that in only 2 cases would earlier diagnosis and treatment have averted a fatal outcome. There were predisposing factors in 22 patients (36%), 13 (21%) having had a previous tuberculous infection. 14 patients (22%) had psychosocial problems.

There were 1,398 cases of measles in 1972 compared with 1,001 in 1971, only 10 cases occurring in vaccinated children compared with 1,388 in non-vaccinated children. Among 13 children known to be admitted to hospital with the disease one had encephalitis and three pneumonia. Plans were made for a sustained effort in 1973 to improve the vaccination rate.

There were 1,812 notifications of Rubella and routine sero testing of blood of women attending antenatal clinics, which started in May, showed that 12% were susceptible to the disease. There was an 81% acceptance of the offer of vaccination of girls in their second year in secondary schools.

There were fewer notifications of Salmonella food poisoning cases, but *S. Agana*, associated with poultry foods, and *S. Hadar*, presented epidemiological problems.

Venereal Disease

There was a reduction in the number of cases of syphilis from 40 in 1971 to 24 in 1972. Male patients in the Bristol Clinics with Gonorrhoea increased by 9% and female patients by 9.6% from 1971. There was continued concern about the numbers of young patients and during the year 14.2% of male patients and 38.2% of females were aged under 20 years.

Health Centre Developments

In July 1972, the deputy Lord Mayor, Alderman Mrs. Helen Bloom, who is also the Chairman of the Public Health Committee, opened Charlotte Keel Health Centre, and Dr. Sarah Walker inaugurated a rose garden in the grounds of the Health Centre. Plans were made for a start on three more health centres in Clifton, Hartcliffe and St. Annes in the financial year 1973/4.

Maternal and Child Health

Most infants are now born in hospital, 97.4% in 1972, and only 144 births took place at home. Of the mothers confined in hospital, 40% came home on, or before, the

* Finch R. G. and Cope J. R. (1973) *The Lancet*, 1, 1496.

eighth day, the majority on the second or third day, to the care of the domiciliary midwives, who continue to visit for the first month.

The Health Committee decided to allocate additional money in the 1972/3 budget to provide a comprehensive free family planning advisory service for the City, and considerable expansion took place during the year. Sessions are held at 17 main Health Clinics/Centres. A domiciliary service was started in January with financial assistance under the Urban Aid Programme.

Under the powers granted by the National Health Service Family Planning Amendment Act 1972, it is proposed to provide a free vasectomy service, using the Family Planning Association's Vasectomy Clinic already opened at Horfield Health Centre.

Health Education

An account is given of an attempt to estimate the relative effectiveness of various media of publicity used in a short campaign on cervical cytology.

A conference for fifth and sixth formers was held, under the auspices of the Health Department and the Royal Society of Health. Nearly 300 young people were given the opportunity to learn about smoking and health, the problem of drug addiction, and venereal diseases.

First-aid training, especially of staff of the Corporation, continued with increasing momentum throughout the year.

The "Stop-Smoking" Sessions have continued. Of the 142 patients registered in 1971 and 1972, 43% had stopped cigarette smoking at the time of their last visit to the Clinic. Two afternoon study sessions were held for about 120 nurses and midwives on the subject of smoking in pregnancy. A further session was held on a Saturday morning to 80 health visitors.

There is a detailed account of new developments in the nutrition services, whereby special nutrition programmes for different sections of the community may be developed.

Head teachers of primary schools were very helpful in introducing apples, or apples and cheese, in substitution for traditional "tuck" shop activities. By the end of the summer term 1973, 51 out of 150 schools had made the change, while another 10 did not sell cariogenic foods.

Nursing Services

Approval was obtained from the Department of Health on the management structure to implement fully the recommendations of the Mayston Report.

The structure of the nursing service in Bristol already conformed in many respects with the recommendations and at top and middle management level involved no changes of staff, but only re-designation of posts.

There is a new establishment of 13 Nursing Officer Posts at lower middle management level and at the end of the year four of these posts had been filled. It is hoped that further appointments will be made in the New Year.

Further progress was made during the year of the attachment of nursing staff to group practices. At the end of the year 50 health visitors were working in association with 114 General Practitioners and there is now almost complete attachment of district nurses.

Cross boundary visiting has also been arranged between health visitors in the Eastern boundary of the City and health visitors working in South Gloucestershire.

In the home nursing service the past year has shown a large increase in the number of visits paid by the district nursing staff.

During the year plans for the Community Care option for student nurses were made and in October the Community Health Tutor was appointed.

Final preparations were made so that the first group of eighteen students could begin a ten week module of training in January 1973. As recommended in the 1969 syllabus of Nurse Training, the programme arranged will provide a theoretical background as well as practical work and observation. This will give the student an appreciation of the type of care to be provided in the community and the factors which will influence the provision of services.

Ambulance Service

During the year phase I of the Bristol Royal Infirmary Development Scheme came into operation and there was close co-operation in the use of the new accident centre and out-patients facilities. Significantly, more patients attended the Day Centre at Glenside Hospital.

The Ambulance Service played a very useful part in conveying patients injured, when a coach bringing home nurses from Ham Green Hospital over-turned on Rownham Hill in February.

The total number of patients moved during the year was 231,767 compared with 214,590 in 1971, and the mileage run was 1,108,567 compared with 1,059,160 in 1971.

Services for the Elderly and Handicapped

There was good progress in the year in achieving closer co-operation between geriatricians and the community health and social services. Dr. G. Burston, Consultant in the Southmead group, started a monthly session at Southmead Health Centre in April, and he and his colleagues developed a team relationship with the health visitors with a special interest in elderly patients. Geriatricians main 'catchment' areas within the city more closely corresponded with those of the social workers. Useful discussions were held with a team from the Hospital Advisory Service that visited hospitals in Bristol in the Autumn.

Assistance was given to officers of the Social Services Department by general practitioners and the staff of the Department of Health in compiling a register of the chronically sick and disabled.

In the year ending 31st March, 1973, the Social Services Department installed telephones in 126 households, 23 in the homes of people aged 75 and over living alone. Televisions were supplied to 20 households and radio to 79. Minor adaptations to private property were carried out in 65 households, 40 containing people of 65 years and over and major adaptations were carried out in 14 households composed of people aged between 16 and 65 years. Adaptations were carried out on 382 corporation dwellings, 168 occupied by people aged less than 65 years. Altogether 1,840 households were helped in one way or another.

The Environment

Meetings of the officers of the Avonmouth Atmospheric Pollution Sub-Committee continued in 1972 and 1973 and it is pleasing to record that H.M. Factory Inspectorate have now issued a new code of practice for health precautions in the lead industry.*

At the beginning of 1973 the Commonwealth Smelting Corporation began to import through Avonmouth zinc/lead ores that contained lead in the oxide and

* H.M. Factory Inspectorate August 1973.

carbonate forms. In co-operation with the Company, the Principal Medical Officer (Occupational Health), the Scientific Adviser, the Chief Public Health Inspector, Port Safety Officers and the Unions involved, working procedures were devised to minimise any risk to workers in the Port.

There was an increase in the number of noise complaints (265) in 1972, nearly 50% more than in 1971.

Assurances were obtained from the Solid Smokeless Fuels Federation about the adequacy of supplies of authorised fuels, and Smoke Control Area No. 9 (Avonmouth) and Smoke Control Area No. 11 (Clifton) were approved by the City Council.

Members of the Housing Section were engaged in the Department of the Environment Housing Sample Survey in which 1,000 houses were selected at random throughout the City and inspected. In addition, about 200 houses were surveyed in the Central area, and it was found that about 50% were owner occupied, 50% were in multiple occupation and 19% of the houses and 44% of the basements were thought to be unfit.

Occupational Health

During the year a medical questionnaire has been introduced for certain employees, replacing full pre-employment medical examinations; a medical examination being undertaken if answers to the questionnaire indicated this to be necessary.

Routine medical examinations in the year numbered 3,927. From September, when the medical questionnaire was introduced, 360 prospective employees completed one and as a result 8 (2.2%) had a full medical examination and 31 (8.6%) had a limited medical examination.

During the year 596 special examinations were carried out, 446 at the request of Heads of Departments where work related health problems existed. The remainder was in connection with groups of workers at particular risk because of their work.

A continuation of first aid training has involved the holding of monthly full time 5 day courses and 2 day refresher courses. Assistance has also been given to departments in safety training.

An investigation into the sickness absence of manual workers in the City Engineer's Department was completed in the year.

Fluoridation of Water Supplies

In October the City Council agreed in principle to a recommendation from the Public Health Committee that the fluoride content of the water supply should be raised to one part per million, and that discussions and negotiations should take place with the Bristol Waterworks Company and other authorities with a view to introducing this public health measure in the appropriate purification plant at the earliest possible date. The matter was fully ventilated in the local newspapers and on radio and television, and there was a long debate in Council before the motion was carried by 45 to 37 votes. On 7th February, 1973, there was a meeting with representatives of neighbouring authorities, who would inevitably be involved in any plan to implement the recommendation. It was decided that in view of the impending Local Government and National Health Service Reorganisation, the matter should be deferred until after April, 1974.

Considerable assistance was given to officers of the Department of Health by a voluntary association called PACT (Parents Action for Children's Teeth), and in an impartial but extremely helpful technical capacity, by officers of the Bristol Waterworks Company. The help of members of the staff and students of the University of Bristol Dental School was also greatly appreciated.

National Health Service Reorganisation

On 1st August the Government's decisions about the reorganisation of the National Health Service were announced in the White Paper "National Health Service Reorganisation; England". The National Health Service Reorganisation Bill was introduced into the House of Lords on 15th November and received the Royal Assent on 5th July, 1973. Among the local preparations were the establishment of Joint Liaison Committees composed of representatives of each existing authority to co-ordinate preparatory work carried out by existing authorities and also to undertake a preliminary assessment of matters that would have to be settled by the new authorities when they were appointed. The first meeting of the Joint Liaison Committee for Avon Area Health Authority was held in September, and it was agreed that each constituent Authority would limit its representation to one officer, with the reservation that constituent Authorities might request a meeting of representative members if in the light of experience this was considered advisable. Your officers have played a full part in the work of the Liaison Committee; the Medical Officer of Health being elected deputy Chairman, while other members of the staff have Chaired or served as members of Working Groups on Accommodation; Finance; Ambulance Services; Works; Staffing and Administrative Procedures; the School Health Service; Computers; and Records and Information.

Staff Changes

Dr. M. R. F. Reynolds, Senior Departmental Medical Officer (Epidemiology) was appointed to a post with the South Western Regional Hospital Board in May, and was succeeded by Dr. S. Stead.

Mr. A. J. Harrison took up duties as Public Analyst and Scientific Adviser in September.

Miss E. M. Hawkins, Sister-in-Charge, Fishponds Health Centre, left in March to become an Area Nursing Officer with Gloucestershire County Council.

Retirements

Mr. E. G. Whittle, Public Analyst and Scientific Adviser, retired at the end of June, after 25 years of distinguished service.

Mr. G. D. Harber, Chief Technician in the Public Analyst's Department, who had been in the service of the Corporation since 1921, retired in August.

Dr. Cecile D. Hopkins, Senior Departmental Medical Officer, retired from full-time work in April. She had done much valuable work over the last fifteen years in relation to Special Families.

Mrs. L. Moore, a Domiciliary Midwife with the Department since 1954, retired in June.

Miss M. Chapman, retired in December after being employed as the Departmental Nutritionist for 17 years.

Mrs. R. M. Reed, Sister-in-Charge, Charlotte Keel Health Centre, retired in December. She had worked with the Corporation since 1936 as a Child Care Officer, Health Visitor and nurse at Southmead and Frenchay Hospitals.

Miss B. E. Nurse, left in April, after 21 years with the Department. She was Centre Superintendent at Granby House Clinic for two years, prior to retirement.

Mrs. M. O'Brien, deputy Sister-in-Charge, William Budd Health Centre, retired in May after 10 years in this post.

Mrs. E. M. Ringshaw and Mrs. M. J. Tauber retired in June, Mrs. L. Holliger in November and Mrs. W. N. Penketh in December. These four District Nurses have been

with the Department since 1959 and prior to this had long service as Queen's Nurses.

Miss G. E. Moody, Clerical Assistant in the Home Nursing Section, retired at the end of September. She also transferred from the Bristol District Nursing Association in 1959.

Mr. G. P. Hooper, a Senior Shops Act Inspector, retired owing to ill-health in October, and unfortunately has since died.

Deaths

Mr. C. E. Bowden, died suddenly on the 5th January, 1972, at the age of 64, after 38 years service. He was a Specialist Inspector in the Environmental Services and for many years was an authority on housing in the City.

Miss M. E. Hughes, Sessional Clinic Nurse, died on the 17th March, 1972, aged 64, after 39 years service. She was previously a Centre Superintendent before retiring in 1968.

Acknowledgments

I am grateful to the many contributors to this report, both named and un-named and to the whole of the staff of the Department who have continued to give me loyal and willing service. The Chairman and Vice-Chairman of the Public Health Committee have shown whole-hearted support and I greatly appreciate the help and guidance I have received from fellow Chief Officers. I am also indebted to my deputy, Dr. J. F. Skone, who has collated the report.

I am your obedient servant,

R. C. WOFINDEN.

PUBLIC HEALTH COMMITTEE 1972

Chairman

Alderman C. Hebblethwaite, C.B.E.
(To May 1972)

Alderman Mrs. H. Bloom
(From May 1972)

Vice-Chairman

Councillor Dr. R. P. Golding
(To May 1972)

Councillor W. Graves, J.P.
(From May 1972)

Aldermen

Alderman C. Hebblethwaite, C.B.E.

Alderman Mrs. H. Bloom

Councillors

Coun. A. B. Abrams

Coun. W. Graves, J.P.

Coun. Mrs. L. M. Alexander (To May 1972)

Coun. V. J. Jackson

Coun. Mrs. G. C. Barrow

Coun. Mrs. I. M. Knight, M.B.E.

Coun. Rev. P. W. P. Brook (To May 1972)

Coun. Mrs. F. L. Lawrence

Coun. Mrs. B. L. Edwards

Coun. H. D. McKay (From May 1972)

Coun. E. R. Fothergill (From May 1972)

Coun. H. Trapnell (From May 1972)

Coun. Dr. R. P. Golding (To May 1972)

Coun. G. H. W. Woodhouse (To May 1972)

PRINCIPAL STAFF, 1972

Medical Officer of Health

R. C. Wofinden, M.D., F.R.C.P., F.F.C.M., D.P.H., D.P.A.

Deputy Medical Officer of Health: J. F. Skone, M.D., F.F.C.M., D.P.H., D.C.H., D.I.H.

Principal Assistants

Senior Principal Medical Officer: H. Temple Phillips, M.D., D.P.H., D.C.H., D.I.H.

Principal Medical Officer—Maternal and Child Health: Sarah C. B. Walker, M.D., D.P.H.

Principal Medical Officer—School Health Service: A. L. Smallwood, M.D., D.P.H., D.C.H.

Principal Medical Officer—Epidemiology: A. J. Rowland, M.B., M.F.C.M., D.P.H.

Principal Medical Officer—Occupational Health: E. P. Hamblett, M.D., M.F.C.M., D.P.H.,
D.C.H., D.T.M. & H.

Chief Dental Officer: J. McCaig, L.D.S., R.F.P.S.

Chief Public Health Inspector: T. K. Aston, M.R.S.H., M.A.P.H.I.

Chief Administrative Officer: R. L. Hillman, B.A., A.I.M.T.A.

Chief Nursing Officer: Margaretta Marks Jones, S.R.N., S.C.M., H.V., N.A.C.

(Public Health)

Chief Chiropodist: J. Pugh, F.R.S.H., M.Ch.S., S.R.Ch.

Professional and Technical Officers

Chief Ambulance Officer: E. C. G. Joy.

Health Education Officer: P. Mackintosh, B.A.

Systems and Programming Assistant: B. A. Parker

Nutritionist: Margaret Chapman, S.R.D.

Liaison Officer: Marion Moncaster, A.M.I.M.S.W.

Scientific Adviser

E. G. Whittle, B.Sc., F.R.I.C. (to 30th June)

A. J. Harrison, M. Chem.A., F.R.I.C., F.I.F.S.T., M.R.S.H. (from 14th September)

VITAL STATISTICS & EPIDEMIOLOGY

A. J. Rowland, M.B., Ch.B., D.P.H., M.F.C.M.

(Principal Medical Officer—Epidemiology)

S. Stead, M.B., Ch.B., D.O., D.P.H.

(Senior Departmental Medical Officer)

H. R. Cayton, M.B., Ch.B., F.C.Path.

(Director of the Public Health Laboratory, Bristol)

S. R. Forsey

(Meteorological Officer, University of Bristol)

VITAL STATISTICS

			1972	1971	1970	1969	1968	1967
POPULATION	...	...	421,580	426,170	426,370	427,230	427,780	429,020
AREA IN ACRES	...	...	27,073	27,073	27,073	27,073	27,073	27,073
NUMBER OF MARRIAGES			4,197	3,998	4,256	3,872	3,980	3,786
LIVE BIRTHS								
Legitimate	M. 2,476	F. 2,377	4,853	5,620	5,603	5,776	6,032	6,261
Illegit.	M. 358	F. 316	674	686	653	686	699	742
Illegit. expressed as								
percentage of all births	...	...	12.2%	10.9%	10.4%	10.6%	10.4%	10.6%
Total Births	...	...	5,527	6,306	6,256	6,462	6,731	7,003
Live Birth Rate (Crude)	...	...	13.1	14.8	14.7	15.1	15.7	16.3
Adjusted Birth Rate	...	...	13.1	15.2	15.1	15.6	16.2	16.8
STILLBIRTHS								
Legitimate	M. 29	F. 40	69	63	75	67	96	79
Illegit.	M. 4	F. 5	9	12	9	13	7	12
Total Stillbirths	...	...	78	75	84	80	103	91
Stillbirth Rate	...	...	13.9	11.8	13.2	12.2	15.1	12.8
Total Live and Stillbirths	...	...	5,605	6,381	6,340	6,542	6,834	7,094
INFANT DEATHS								
Infant Mortality Rate—Total			21.0	16.7	19.8	16.2	17.1	16.8
“ “ Legit. Births			21.0	16.9	19.5	15.2	17.2	16.5
“ “ Illeg. Births			20.8	14.6	23.0	24.8	15.7	20.2
Neo-Natal Mortality Rate	...	...	11.2	12.5	14.7	10.2	11.1	12.3
Early Neo-Natal Mortality								
Rate	...	...	9.0	9.8	11.7	8.4	8.8	10.7
Peri-Natal Mortality Rate	...	...	22.8	21.5	24.8	20.5	23.7	23.4
MATERNAL DEATHS								
Number of deaths	...	...	1	—	1	1	4	—
Maternal Mortality Rate	...	...	0.18	—	0.16	0.15	0.59	—
DEATHS AT ALL AGES								
Male 2,689	Female 2,714		5,403	5,225	5,416	5,425	5,329	5,044
Death Rate (Crude)	...	...	12.8	12.3	12.7	12.7	12.5	11.8
Adjusted Death Rate	...	...	11.9	11.8	12.2	12.1	11.8	11.1

TABLE 1

**TOTAL DEATHS OF BRISTOL CITIZENS BY CAUSE AND AGE,
REGISTRATIONS DURING THE CALENDAR YEAR 1972**

(Compiled from figures supplied by the Registrar General)

CAUSE OF DEATH					Sex	Total at all ages	0-	1-	5-	15-	45-	65-	75+
Total All Causes	...	...	...	...	M	2,689	61	8	13	109	719	855	924
					F	2,714	55	8	10	47	378	648	1,568
Enteritis and other diarrhoeal diseases	...	...	...	...	M	6	2	1	1	—	—	—	2
					F	—	—	—	—	—	—	—	—
Tuberculosis of respiratory system	...	...	...	...	M	6	—	—	—	1	2	1	2
					F	—	—	—	—	—	—	—	—
Late effects of respiratory T.B.	...	...	...	...	M	3	—	—	—	—	1	—	2
					F	1	—	—	—	—	—	—	1
Other tuberculosis	...	...	...	...	M	2	—	—	—	1	—	1	—
					F	—	—	—	—	—	—	—	—
Meningococcal infection	...	...	...	...	M	—	—	—	—	—	—	—	—
					F	1	1	—	—	—	—	—	—
Measles	...	...	...	...	M	—	—	—	—	—	—	—	—
					F	1	—	—	1	—	—	—	—
Other infective and parasitic diseases	...	...	...	...	M	6	2	—	—	1	1	—	2
					F	5	1	—	—	—	3	1	—
Malignant neoplasm, buccal cavity, etc.	...	...	...	...	M	11	—	—	—	—	2	4	5
					F	9	—	—	—	1	2	3	3
Malignant neoplasm, oesophagus	...	...	...	...	M	13	—	—	—	—	6	3	4
					F	18	—	—	—	—	3	8	7
Malignant neoplasm, stomach	...	...	...	...	M	74	—	—	—	1	26	29	18
					F	63	—	—	—	1	13	14	35
Malignant neoplasm, intestine	...	...	...	...	M	60	—	—	—	4	15	19	22
					F	88	—	—	—	2	18	26	42
Malignant neoplasm, larynx	...	...	...	...	M	4	—	—	—	—	—	3	1
					F	—	—	—	—	—	—	—	—
Malignant neoplasm, lung, bronchus	...	...	...	...	M	232	—	—	—	5	80	98	49
					F	51	—	—	—	—	25	19	7
Malignant neoplasm, breast	...	...	...	...	M	—	—	—	—	—	—	—	—
					F	87	—	—	—	2	32	24	29
Malignant neoplasm, uterus	...	...	...	...	F	31	—	—	—	2	9	9	11
					M	42	—	—	—	1	6	13	22
Malignant neoplasm, prostate	...	...	...	...	M	13	—	—	1	1	4	2	5
					F	22	—	—	1	1	7	4	9
Other malignant neoplasms	...	...	...	...	M	131	—	—	1	10	48	49	23
					F	175	—	—	2	8	56	51	58
Benign and unspecified neoplasms	...	...	...	...	M	5	—	—	—	—	1	3	1
					F	5	—	—	—	1	—	2	2
Diabetes mellitus	...	...	...	...	M	24	—	—	—	1	3	6	14
					F	36	—	—	1	—	4	8	23
Other endocrine etc. diseases	...	...	...	...	M	4	1	—	—	—	2	1	—
					F	12	1	—	—	—	3	4	4
Anaemias	...	...	...	...	M	3	—	—	—	—	—	2	1
					F	8	—	—	—	—	2	—	6
Other diseases of blood, etc.	...	...	...	...	M	1	—	—	1	—	—	—	—
					F	2	—	—	—	—	1	1	—
Mental disorders	...	...	...	...	M	8	—	—	—	—	1	2	5
					F	14	—	1	—	—	—	3	10
Meningitis	...	...	...	...	M	2	1	—	—	—	—	1	—
					F	1	—	—	—	—	1	—	—
Multiple sclerosis	...	...	...	...	M	2	—	—	—	—	1	1	—
					F	7	—	—	—	—	3	2	2
Other diseases of nervous system, etc.	...	...	...	...	M	26	—	2	—	5	3	8	8
					F	17	—	1	—	—	4	3	9
Chronic rheumatic heart disease	...	...	...	...	M	20	—	—	—	2	10	5	3
					F	38	—	—	—	3	14	13	8
Hypertensive disease	...	...	...	...	M	33	—	—	—	1	7	11	14
					F	44	—	—	—	2	4	12	26
Ischaemic heart disease	...	...	...	...	M	865	—	—	—	21	289	274	281
					F	661	—	—	—	1	58	186	416
Other forms of heart disease	...	...	...	...	M	77	—	—	—	2	14	18	43
					F	144	—	—	1	2	5	23	113
Cerebrovascular disease	...	...	...	...	M	225	1	—	—	3	42	74	105
					F	426	—	—	—	4	32	96	294
Other diseases of circulatory system	...	...	...	...	M	98	1	—	—	2	20	30	45
					F	151	—	—	—	1	10	32	108
Influenza	...	...	...	...	M	7	—	—	—	—	—	2	5
					F	8	—	—	—	—	1	3	4
Pneumonia	...	...	...	...	M	167	3	—	—	1	18	42	103
					F	252	2	1	2	1	13	38	195
Bronchitis and emphysema	...	...	...	...	M	204	—	—	—	1	50	87	66
					F	50	—	—	—	—	7	12	31
Asthma	...	...	...	...	M	4	—	—	—	1	3	—	—
					F	9	—	—	—	2	4	1	2

CAUSE OF DEATH				Sex	Total at all ages	0-	1-	5-	15-	45-	65-	75+
Other diseases of respiratory system	...	...	...	M	34	1	1	—	—	4	19	9
				F	25	5	—	—	—	3	4	13
Peptic ulcer	...	...	...	M	31	—	—	—	—	9	12	10
				F	15	—	—	—	—	—	2	13
Appendicitis	...	...	...	M	1	—	—	—	—	1	—	—
				F	1	—	—	—	—	—	—	1
Intestinal obstruction and hernia	...	...	...	M	10	2	—	—	1	4	1	2
				F	10	—	—	—	—	1	1	8
Cirrhosis of liver	...	...	...	M	11	—	—	—	—	5	4	2
				F	8	—	—	—	—	2	2	4
Other diseases of digestive system	...	...	...	M	20	—	—	—	—	5	7	8
				F	37	—	—	—	—	9	10	18
Nephritis and nephrosis	...	...	...	M	13	—	—	—	1	2	5	5
				F	5	—	—	—	—	2	2	1
Hyperplasia of prostate	...	...	...	M	5	—	—	—	—	—	2	3
Other disease, genito urinary system	...	...	...	M	12	—	—	—	—	2	2	8
				F	26	—	—	—	2	8	6	10
Abortion	...	...	...	F	1	—	—	—	1	—	—	—
Diseases of skin, subcutaneous tissue	...	...	...	M	3	—	—	—	—	—	—	3
				F	2	—	—	—	—	—	—	2
Diseases of musculo skeletal system	...	...	...	M	11	—	—	—	1	3	3	4
				F	23	—	—	—	1	4	8	10
Congenital anomalies	..	...	...	M	18	15	1	1	—	1	—	—
				F	32	23	2	1	1	2	2	1
Birth Injury, difficult labour	..	...	...	M	16	16	—	—	—	—	—	—
				F	5	5	—	—	—	—	—	—
Other causes of perinatal mortality	...	...	...	M	7	7	—	—	—	—	—	—
				F	7	6	1	—	—	—	—	—
Symptoms and ill defined conditions	...	...	...	M	13	8	—	—	—	1	2	2
				F	16	10	—	—	—	—	—	6
Motor vehicle accidents	...	...	...	M	52	—	1	6	25	12	2	6
				F	18	—	1	1	2	3	6	5
All other accidents	...	...	...	M	29	1	2	—	8	6	5	7
				F	32	1	1	—	2	7	4	17
Suicide and self inflicted injuries	...	...	...	M	14	—	—	—	7	5	—	2
				F	11	—	—	—	3	2	3	3
All other external causes	...	...	...	M	11	—	—	2	1	4	2	2
				F	3	—	—	—	1	1	—	1

TABLE 2
CAUSES OF DEATH REGISTERED DURING THE CALENDAR YEAR 1972
 (Compiled from figures supplied by the Registrar General)

Death Rate per million population	Cause of Death				No. of Deaths 1972	Percentage of total deaths
	Total All Causes	...	...	...	5,403	100.00
14	Enteritis and other diarrhoeal diseases	...	...	...	6	0.1
14	Tuberculosis of respiratory system	...	...	...	6	0.1
9	Late effects of respiratory T.B.	...	...	...	4	0.1
5	Other tuberculosis	...	...	...	2	0.0
2	Meningococcal infection	...	...	...	1	0.0
2	Measles	...	...	...	1	0.0
26	Other infective and parasitic diseases	...	...	...	11	0.2
47	Malignant neoplasm, buccal cavity etc.	...	...	...	20	0.4
74	Malignant neoplasm, oesophagus	...	...	...	31	0.6
325	Malignant neoplasm, stomach	...	...	...	137	2.5
351	Malignant neoplasm, intestine	...	...	...	148	2.7
9	Malignant neoplasm, larynx	...	...	...	4	0.1
67	Malignant neoplasm, lung, bronchus	...	...	...	283	5.2
206	Malignant neoplasm, breast	...	...	...	87	1.6
74	Malignant neoplasm, uterus	...	...	...	31	0.6
100	Malignant neoplasm, prostate	...	...	...	42	0.8
83	Leukaemia	...	...	...	35	0.6
726	Other malignant neoplasms	...	...	...	306	5.7
24	Benign and unspecified neoplasms	...	...	...	10	0.2
142	Diabetes mellitus	...	...	...	60	1.1
38	Other endocrine etc. diseases	...	...	...	16	0.3
26	Anaemias	...	...	...	11	0.2
7	Other diseases of blood, etc	...	...	...	3	0.1
52	Mental disorders	...	...	...	22	0.4
7	Meningitis	...	...	...	3	0.1
21	Multiple sclerosis	...	...	...	9	0.2
102	Other diseases of nervous system	...	...	...	43	0.8
138	Chronic rheumatic heart disease	...	...	...	58	1.1
183	Hypertensive disease	...	...	...	77	1.4
3,620	Ischaemic heart disease	...	...	...	1,526	28.2
524	Other forms of heart disease	...	...	...	221	4.1
1,544	Cerebrovascular disease	...	...	...	651	12.0
591	Other diseases of circulatory system	...	...	...	249	4.6
36	Influenza	...	...	...	15	0.3

Death Rate per million population	Cause of Death	No. of Deaths 1972	Percentage of total deaths
994	Pneumonia	419	7.8
602	Bronchitis and emphysema	254	4.7
31	Asthma	13	0.2
140	Other diseases of respiratory system	59	1.1
109	Peptic ulcer	46	0.9
5	Appendicitis	2	0.0
47	Intestinal obstruction and hernia	20	0.4
45	Cirrhosis of liver	19	0.4
135	Other diseases of digestive system	57	1.1
43	Nephritis and nephrosis	18	0.3
12	Hyperplasia of prostate	5	0.1
90	Other disease, genito urinary system	38	0.7
2	Abortion	1	0.0
12	Diseases of skin, subcutaneous tissue	5	0.1
81	Diseases of musculo skeletal system	34	0.6
119	Congenital anomalies	50	0.9
50	Birth Injury, difficult labour	31	0.4
33	Other causes of perinatal mortality	14	0.3
69	Symptoms and ill defined conditions	29	0.5
166	Motor vehicle accidents	70	1.3
145	All other accidents	61	1.1
59	Suicide and self inflicted injuries	25	0.5
33	All other external causes	14	0.3

TABLE 3

INFANT MORTALITY (Local figures, corrected for transfers)

Cause of death	Total 1972	First day	From one day to under one week	From one week to under four weeks	Total under four weeks	Total from one month to under one year
Enteritis and other diarrhoeal diseases	2	—	—	—	—	2
Meningococcal infection	1	—	—	—	—	1
Other infective and *Parasitic diseases	3	—	2	—	2	2
Meningitis	1	—	—	—	—	1
Other forms of heart disease	1	—	—	—	—	1
Cerebrovascular disease	1	—	—	—	—	1
Pneumonia	4	—	—	2	2	2
Intestinal obstruction and hernia	1	—	—	1	1	—
*Congenital Anomalies	37	7	11	5	23	14
*Birth injury, difficult labour and other anoxic and hypoxic conditions	22	12	7	1	20	2
*Other causes of perinatal mortality	15	10	3	—	13	—
Symptoms and ill-defined conditions	20	—	—	2	2	18
Other endocrine, nutritional and metabolic diseases	1	—	—	—	—	1
All other accidents	2	—	—	—	—	2
Other diseases of the respiratory system	6	—	—	1	1	5
Other diseases of the genito-urinary system	1	—	—	1	1	—
TOTALS	118	29	23	13	65	52
Rate per 1,000 live births (1972)	21.2	5.2	4.1	2.3	11.4	9.6
Rate per 1,000 live births (1971)	16.7	5.9	4.0	2.7	12.6	4.1

* Where there has been mention of prematurity	1972	...	27
	1971	...	42
	1970	...	39
	1969	...	32

1972 infant deaths in:	Hospitals	...	86
	Private nursing homes	...	Nil
	Private residences, ambulances	...	32

TABLE 4

INFECTIOUS DISEASES NOTIFIED DURING 1972

NOTIFIABLE DISEASE	At all ages		Under 1	Incidence by age groups (1972)					Incidence by quarters of 1972		
	1970	1971		1-4	5-14	15-24	25-44	45-64	1st Qtr.	2nd Qtr.	3rd Qtr. 4th Qtr.
Malaria	3	2	3	2	3	...	...	1	1	1
Scarlet fever	87	99	94	2	25	60	4	40	23	15
Acute Encephalitis	25	17	10	...	...	4	3	2	3	3
Typhoid	2	...	1	...	...	...	1	1	...	...
Acute Meningitis	10	11	7	2	3	1	...	1	2	2
Infective jaundice	696	126	108	...	4	34	25	28	14	46
Glandular fever	137	115	106	...	1	19	76	25	37	22
Dysentery	192	84	132	3	56	29	15	39	48	31
Food poisoning (Confirmed cases)	88	479	89	1	25	6	15	10	16	32
Measles	1,384	1,001	1,398	67	567	737	15	401	587	97
Rubella	433	1,256	1,812	67	540	994	126	205	866	124
Whooping cough	39	296	22	1	15	6	...	15	3	2
Ophthalmia neonatorum	5	4	5	5	...	...	...	...	4	1

TABLE 5
TUBERCULOSIS NOTIFICATIONS

				CASES												65
				Sex	At All Ages	Under one	1-	5-	10-	15-	20-	25-	35-	45-	55-	and over
1972:																
<i>Pulmonary Tuberculosis</i>																
New notifications	...	...	...	M	44	—	—	—	—	1	2	6	7	8	9	11
				F	18	—	—	1	1	—	1	5	3	5	2	—
Transfers from other areas	...	...	...	M	5	—	—	—	—	—	2	1	1	—	1	—
				F	2	—	—	1	—	—	1	—	—	—	—	—
Deaths mentioning TB not otherwise notified	...	...	...	M	2	—	—	—	—	—	—	—	—	—	—	2
				F	—	—	—	—	—	—	—	—	—	—	—	—
<i>Non-pulmonary Tuberculosis</i>																
New notifications	...	...	...	M	6	—	1	—	1	—	—	1	1	1	1	—
				F	6	—	—	—	1	—	1	—	1	1	1	1
Transfers from other areas	...	...	...	M	—	—	—	—	—	—	—	—	—	—	—	
				F	1	—	—	—	—	—	1	—	—	—	—	—
Deaths mentioning TB not otherwise notified	...	...	...	M	—	—	—	—	—	—	—	—	—	—	—	—
				F	—	—	—	—	—	—	—	—	—	—	—	—
<i>New Notifications</i>																
<i>Pulmonary—</i>																
1971	...	...	...	M	48	—	—	1	2	2	4	3	11	6	11	8
				F	24	1	—	2	1	2	1	4	2	4	4	3
1970	...	...	...	M	47	—	1	2	1	2	2	2	10	12	7	8
				F	16	1	—	—	1	—	1	2	4	2	2	3
1969	...	...	...	M	41	—	—	—	—	3	2	4	9	8	6	9
				F	19	—	2	—	—	1	2	5	2	4	—	3
1968	...	...	...	M	53	1	3	—	—	3	4	6	7	9	10	10
				F	25	—	—	—	2	1	2	6	3	8	2	1
1967	...	...	...	M	42	—	—	3	1	2	2	8	7	1	6	12
				F	26	—	2	1	1	5	1	4	4	3	2	3
<i>Non-Pulmonary</i>																
1971	...	...	...	M	8	—	—	—	1	—	1	3	2	1	—	—
				F	9	—	2	—	1	2	1	—	3	—	—	—
1970	...	...	...	M	7	—	1	—	—	—	1	3	1	—	—	
				F	7	—	—	—	—	2	1	2	1	—	—	1
1969	...	...	...	M	10	—	—	—	—	1	1	4	2	1	—	—
				F	7	—	—	—	2	—	—	2	1	—	1	1
1968	...	...	...	M	5	—	—	1	—	—	1	2	—	—	1	—
				F	6	—	—	—	—	—	—	3	2	1	—	—
1967	...	...	...	M	7	—	1	1	—	—	—	1	2	1	1	—
				F	8	—	—	—	—	—	—	4	2	—	—	2

VITAL STATISTICS

Population

The estimated mid-year population for 1972 was 421,580.

Births and infant mortality

There were some unusual variations in statistics relating to births and infant mortality this year. There was a dramatic reduction in the number of births to 5,527 (6,306 in 1971) with a corresponding fall in the birth rate to 13.1 per 1,000 mid-year population. The number of infant deaths in 1972 was 116, by comparison with 105 in the preceding year. The net result of all this has been a noticeable increase in the infant mortality rate this year, which, as the following comparison shows, is principally linked with an increase in postneonatal mortality.

**Table 7. Comparison of basic infant mortality rates
Bristol, and England and Wales, 1968 - 1972**

		1968	1969	1970	1971	1972
Infant Mortality	England and Wales	18.3	18.0	18.2	17.5	17.0
	Bristol	17.1	16.2	19.8	15.9	21.0
Neonatal Mortality	England and Wales	12.4	12.0	12.3	11.6	12.0
	Bristol	11.1	10.2	14.7	12.1	11.2
Postneonatal Mortality	England and Wales	5.9	6.0	5.9	5.9	5.0
	Bristol	6.0	6.0	5.1	3.8	9.3

The cause of the drop in the birth rate is not evident from examination of the figures, which show a reduction in all age and parity groups, and in all parts of the city. There was some concentration of the effect in the earlier part of the year, which suggested that conceptions related to the March/April period were reduced, but no explanation is apparent.

The increase in infant mortality is seen from the above figures to be mainly due to an increase in postneonatal mortality. The rate shows a nearly threefold increase on 1971, and is about double the usual rate over the previous four years. More detailed investigation of postneonatal mortality has therefore been undertaken, and this has revealed that the main increase has been in sudden unexpected deaths in infancy ("cot deaths") and in deaths due to congenital malformations. In all these cases the variations are too small to achieve statistical significance and thus may be entirely due to a chance sporadic variation in incidence. None the less, it is as well to be aware of the trend, and to keep the situation under surveillance. Detailed observations will therefore continue in 1973.

GENERAL MORTALITY

There was no significant difference in the total of deaths in the City this year by comparison with 1971. The principal causes were still heart disease and cancer (Table 8).

Table 8. Principal causes of death of citizens in 1972 compared with 1971

Number of deaths		Cause of Death	% of total deaths		Rate per 1,000 population	
			1972	1971	1972	1971
1,747	1,589	Ischaemic and other heart diseases ...	32.3	30.4	4.1	3.7
829	1,096	Malignant neoplasms (including leukaemia)	15.3	21.0	2.0	2.6
697	853	Diseases of nervous system ...	12.9	16.3	1.7	2.0
745	622	Pneumonia, bronchitis and other respiratory diseases ...	13.8	11.9	1.8	1.4
61	86	All accidents ...	1.1	1.6	0.1	0.2

The numbers of deaths from coronary heart disease have continued to rise, although there has been some suggestion of a flattening of the graph as far as male deaths are concerned since 1969, with the result that the number of female deaths is now closer to the number of male deaths than it has been in previous years. The trends are shown in the graph (figure 1). The attention of the reader is drawn to the change in the definition used in coding as from 1968, which slightly affects the direct comparability of the figures before and after, although it does not materially affect the trends shown in the long term.

The increase in deaths from malignant disease is again associated with an increase in deaths from lung cancer. Both this condition and coronary disease are known to be strongly associated with cigarette smoking.

The number of deaths from violence was slightly less than in 1971 (Table 9).

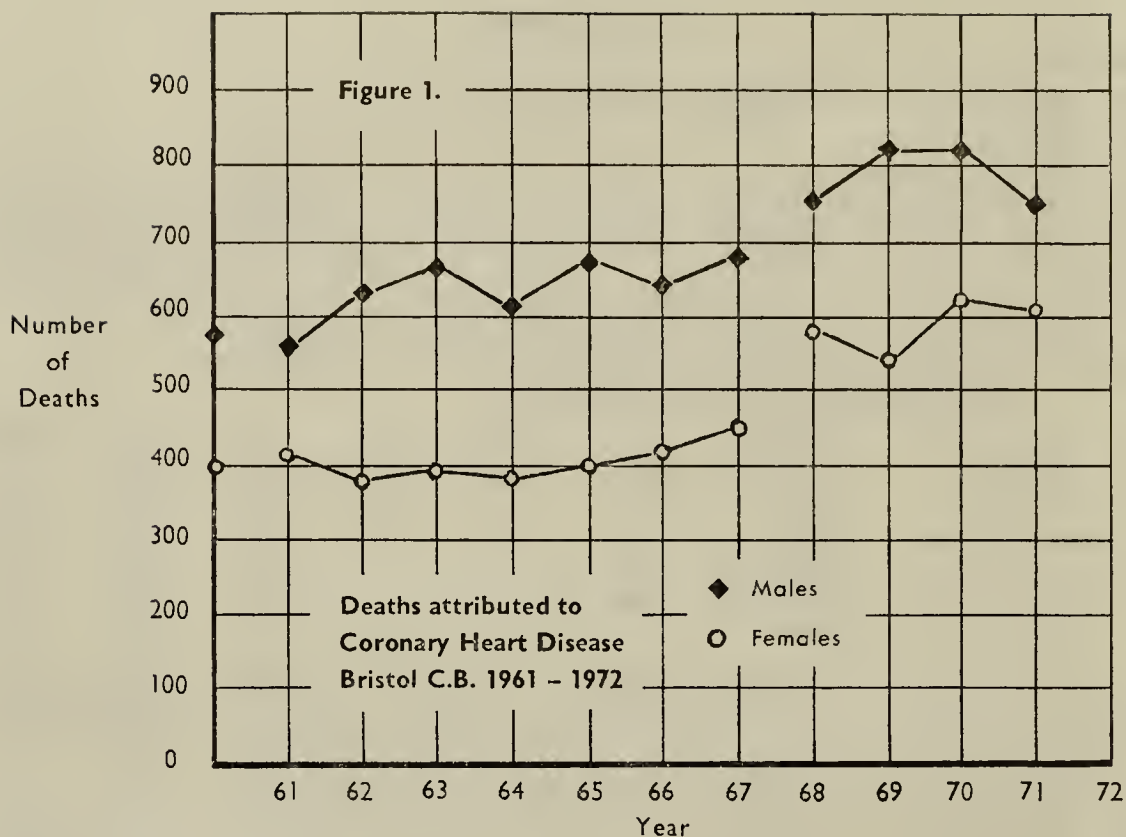


Table 9 Bristol deaths from suicide in 1972
(citizens of Bristol only, inward transfers excluded)

Age distribution	Males	Females	Persons
Under 20	0	1	1
20—29	3	0	3
30—39	2	2	4
40—49	4	1	5
50—59	1	1	2
60—69	1	5	6
70—79	1	1	2
80 and over	1	1	2
Totals	13	12	25*
<i>Type of suicide</i>			
Aspirin poisoning	1	1	2
Narcotic poisoning	3	9	12
Fall or jump from height	4	0	4
Hanging	3	0	3
Gunshot	1	0	1
Burns	0	1	1
Asphyxia	1	1	2
	13	12	25*

* 2 of the above registered in 1973

Table 10. Deaths of Bristol citizens caused by violence in 1972

Deaths in Bristol	Males	Females	Persons
Homicide	2	—	2
Suicide	13	12	25
Road traffic accidents	25	5	30
Home accidents	11	12	23
Industrial accidents	7	—	7
Other violence or accident	17	13	30
Deaths outside Bristol	27	27	54
Total Bristolian deaths	101	69	171

Note: the above figures include 15 deaths registered in 1973

INFECTIOUS DISEASES DUE TO BACTERIA

Tuberculosis

Cases: 74 (62 Pulmonary)
Deaths: 8 (6 Pulmonary)

Apart from the deaths directly attributable to tuberculosis, there were 11 in which the disease played a contributory role. There were 3 notifications of tuberculosis amongst persons under the age of 20, representing 4·8% of all cases of pulmonary tuberculosis. This is one index of the amount of infectious tuberculosis in the community, and is shown for the past five years in table 11.

Table 11. Pulmonary tuberculosis in persons aged under 20
Bristol County Borough, 1968 – 1972

Year	Under 20	All ages	Under 20 as percentage of all ages
1968	9	78	11·5
1969	6	60	10·0
1970	8	63	12·7
1971	11	72	15·3
1972	3	62	4·8

The probable source of infection was detected in two of the three cases this year, there being a close household contact in an infectious state. The third case was in a sixteen-year-old boy recently arrived from Persia, and the source was thought to be outside the United Kingdom. The pool of infectious cases is slowly declining, and with continued strenuous efforts at control may be expected to continue to decline. At the end of the year an analysis of the tuberculosis register was carried out and this shows that the main concentration of cases lies between the ages of 35 and 64 (Table 12).

Protection against tuberculosis

Routine tuberculin testing of schoolchildren in secondary schools continued during the year. Owing to a change over of the medical staff concerned, there was some delay in parts of the programme, so that fewer children were tested by comparison with 1971. However, good progress has since been made in restoring the situation. Of the 4,672 children who were tested and whose tests were subsequently read, 372 gave positive results in the absence of any history of previous BCG vaccination. This gives a natural conversion rate of 7·1% closely similar to the rate of 6·8% in the previous year. Details of the year's activities are given below:

Number Heaf tested ...	...	...	...	...	5,007
Number defaulting reading ...	...	...	...	...	335
Number tested and read ...	...	...	...	...	4,672
Number found negative ...	...	...	...	...	3,763 (4 refused BCG)
Number vaccinated ...	...	...	...	...	4,019 (inc. 260 pos. 1)
Number with previous history of BCG:					
Found positive to Heaf test and not vaccinated ...	...	...	...	...	514
Found negative to skin test and re-vaccinated ...	...	...	...	...	78
Found positive 1 and re-vaccinated ...	...	...	...	...	23
Number found positive with no history of BCG					
(natural converts) ...	...	...	...	...	372
Natural conversion rate ...	...	...	...	...	7·1%
Acceptance rates: L.E.A. schools ...	...	...	...	...	83%
Independent ...	...	...	...	...	85%

The acceptance rates shown above are excellent and the continued use of BCG in our young people, together with the sustained efforts at the detection of sources of infection and careful examination of contacts will hopefully result in the steady reduction of the reservoir of infection in the community.

Table 12. Bristol Tuberculosis Register on 31.12.72

	Pulmonary		Non-pulmonary	
	M.	F.	M.	F.
0-4	1	2	1	2
5-9	5	5	2	0
10-14	10	3	2	3
15-24	20	16	3	7
25-34	37	25	9	9
35-44	59	33	7	9
45-54	73	41	9	10
55-64	67	26	8	6
65+	72	31	2	6
Totals	344	182	43	52

REGISTER OF PATIENTS EXCRETING RESISTANT TUBERCLE BACILLI
BRISTOL CLINICAL AREA 1962 - 1972

Year	New Cases in Year	Resistance				Trans- ferred	Alive and Active	Number on Register on 31 Dec. each year
		Primary	Acquired	Dead	Quiescent			
1962	15	3	12	4	10	1	0	30—1962
1963	13	2	11	2	8	3	0	27—1963
1964	10	2	8	3	5	2	0	21—1964
1965	15	5	10	2	12	1	0	26—1965
1966	13	0	13	7	5	1	0	24—1966
1967	8	1	7	1	5	2	0	15—1967
1968	11	2	9	3	7	1	0	12—1968
1969	10	6	4	0	9	1	0	15—1969
1970	10	0	10	3	5	1	1	6—1970
1971	5	1	4	1	3	0	1	6—1971
1972	10	4	6	0	0	0	10	12—1972

NOTES

1. 10 new cases of resistant Tubercle Bacilli in 1972 confirm that Pulmonary Tuberculosis is still far from conquered and justifies the continuation of a close and critical watch on the situation.
2. 2 old cases remain active and resistant from former years – one from 1970 and one from 1971 – so that there were 12 resistant cases altogether alive and active at the end of 1972.
3. Of these 12 cases 8 were resistant to one drug, 2 to two drugs and only 2 to all three drugs. Of the 8 single drug resistances 4 were to PAS only which is probably of no significance now that Rifampicin and Ethambutol are available.
4. Experience continues to show that, with proper adjustment of the chemotherapy regime in each case, resistant cases respond satisfactorily to treatment and the great majority are controlled within one year. Persistence of resistance beyond one year is usually due to lack of patient co-operation.

Scarlet fever (94 cases)

Scarlet fever is only one manifestation of the incidence in the community of infection with certain strains of streptococcus. The amount of disease reported this year is closely similar to that in previous years; there is little variation from year to year. As is usual, the disease was slightly more prevalent during the first four months of the year.

Whooping cough (22 cases)

Since there were 296 cases notified in 1971, this year has shown a remarkable decrease in the incidence of whooping cough. This has been a national phenomenon, possibly linked with the use of improved vaccines in recent years.

Acute bacterial meningitis (5 cases, 2 deaths)

The incidence of this disease is fortunately low in most years, and this year has been no exception. The organisms were identified in 4 cases (Meningococcus 2, Streptococcus 1, H. influenzae 1).

Dysentery (132 cases)

The incidence of this disease has been reasonably low. One localised outbreak which occurred around Easter led to some increase in incidence during the early part of the year, and there was a localised school outbreak of lesser magnitude in mid-November. One nurse is employed on a part-time basis to carry out domiciliary visits concerned with the control of this condition, and, as things are at present, this works well. She visits all notified cases of gastro-intestinal infection, and makes specific enquiries for members of the household, such as food handlers, or nurses, who might be potential risks to others should they become infected. These persons are put under surveillance as necessary. She is also able to undertake health education in the home, giving advice on ways in which spread of these diseases can be limited.

Food Poisoning

This year there has been a reduction in the number of cases of Salmonella. However in any interpretation of these figures the under-notification of the condition should be borne in mind. Salmonella Agona has taken its place at the top of the table as a leading cause of trouble, a fact which has been noticed on a country wide basis and has followed its introduction into the food chain via poultry foods.

The outbreak of Salmonella Hadar occurred from July to September and stopped as quickly as it started. No food source was identified as the cause of the trouble.

23 cases of food poisoning resulted from a local Banquet but only 9 of these were Bristol residents. Examination of the food handlers resulted in a swab being taken from an infected finger. Staph. Aureus was isolated but was not found to be an Enteropathogenic type. None of the suspected food was available for analysis, so the cause had to be considered as unknown, although the symptomatology strongly suggested poisoning from a Staphylococcal toxin.

Table 13 **SALMONELLA**

<i>Type</i>	<i>No. of cases</i>
S. Agona	18
S. Hadar	13
S. Typhimurium	13
S. Enteritidis	8
Others	25
<hr/>	
Total	77
<hr/>	

Salmonella Hadar

Isolation of S. Hadar began to occur in Bristol about mid-July. The first notified case was that of a 72-year-old female who became ill on Friday afternoon of the 14th. About the same time the P.H.L.S. in Bristol isolated the organism from a specimen submitted as part of a routine examination on a young man applying for catering duties in a local hospital. He was free from any symptoms and had no past history of a gastro-intestinal upset. His home was near the city of Bath where he had been employed in various catering establishments during the previous three months.

On the 21st July a 55-year-old female ate shrimps from a local supplier, was taken ill some 24 hours later and had to be admitted to the isolation hospital. Although none of the original shrimp sample was available, a check on the shop from which these were purchased revealed no evidence of the organism amongst samples of the shellfish tested.

During the remainder of the month 4 more cases within the city boundary were notified. No food item could be incriminated but cases had shown some neighbourhood clustering. This first cluster was in the central part of the city in close proximity to the famous church of St. Mary Redcliffe. This group was made up of elderly ladies living in the large block of flats located in that area. The second group of cases occurred in the east part of the city which borders on to neighbouring Gloucester county. During August cases began to occur in this part of Gloucestershire and one of these was responsible for infecting two nurses after his admission to a local Bristol hospital. A group of patients in a second Bristol hospital was infected early in September. Three of the eight men affected were on gastric drip feeds administered by a nurse living in Gloucestershire who was later found to be excreting S. Hadar.

The Gastric feed, a concentrated protein solution, was prepared in the hospital kitchen but was allowed to remain for periods up to 12 hours on the ward in a large jug which was supposed to be kept in the refrigerator between feeds. As it was some days before the organism was isolated

no sample of the feed was obtained for bacteriology, although negative results were found on kitchen samples of the main ingredients. Two deaths occurred in this group but both were suffering from intestinal cancer.

Another interesting case was in a 12-year-old boy who appeared to have no relationship to any of the others. This young lad was living in a part of the city completely removed from any of the other cases. He was, however, a regular attender three times a week to a hospital dialysis unit and was on a strict diet because of his renal problems. In spite of the limited diet no food containing *S. Hadar* could be found.

Since the end of September no new cases have been notified but during the epidemic the Bristol PHLS isolated *S. Hadar* from 32 patients. 13 were within the city boundary.

In spite of extensive investigations into eating habits no particular food has been incriminated.

The pattern of the outbreak suggests that infection resulted from foodstuffs imported into this area from July to September. Most cases, apart from those in hospital, commenced towards the end of the week, indicating that the food in question was probably distributed into the two main areas affected during the early part of the week and purchased and eaten later. Our efforts were hindered as in most cases the patients had had symptoms for some days or even weeks before notification and isolation revealed the offending organism, by which time few patients were able to recollect the types of food eaten during 18–72 hours prior to illness occurring.

Typhoid fever

The single case of typhoid notified in Bristol during 1972 was a young man who had been on holiday in the Republic of Ireland and who was already ill on his return here. Information about his movements in Eire was transmitted to the Irish Health Authorities through the Department of Health and Social Security. Contacts in Bristol were investigated. No spread of the infection occurred here.

No cases of paratyphoid fever were notified in 1972.

INFECTIOUS DISEASES DUE TO VIRUSES

Influenza

There was the usual seasonal incidence of influenza at the beginning of the year. During November, the existence of a new strain of influenza virus (A/Eng/42/72) was reported, and at this time two isolations of this strain were made from cases brought to notice by general practitioners in the City. Tests showed that there was only a minor degree of cross-immunity between this and previous strains of the Influenza A virus, so that it appeared that a large proportion of the population might be susceptible. The current vaccines were not thought to be very efficient at protecting against the new strain. The stage thus seemed set for an epidemic of influenza in the winter months, and a careful watch was kept on the situation by means of regular enquiries from general practitioners and large firms in the area, as well as monitoring of sickness benefit claims.

There was an increase in sickness due to general winter ailments around the end of December, but by the end of the year the situation had not reached truly epidemic proportions, and much of the sickness was reportedly due to virus infections other than influenza. The pattern was thus one of a generalised increase in coughs and colds, with a moderate amount of influenza super-imposed. Four deaths attributed to influenza occurred during December.

Measles (1,398 cases)

The situation in Bristol can only be described as very disappointing. In spite of the existence of an effective and reasonably safe vaccine, over a thousand cases of measles are occurring each year. The value of the vaccine is well demonstrated by the figures. During 1972, 4,302 doses of measles vaccine were given, but no adverse reactions were reported to the Health Department. Ten children who had been given measles vaccine at some previous date (not necessarily this year) developed measles during the year, so that the actual count of cases was:

Vaccinated children	—	10
Un-vaccinated children	—	1,388

Thirteen children had to be admitted to Ham Green Hospital, one of them with a measles encephalitis, and three with pneumonia associated with the disease. No doubt others were admitted to other hospitals in the City.

Rubella ("German Measles") (1,812 cases)

Rubella is now becoming the commonest notifiable infectious disease in Bristol. It is of course harmless, except in the special circumstances of pregnancy, when it can cause severe damage

to a developing child, with subsequent blindness, deafness, serious congenital deformity of the heart or other organs, and frequently death. Experience with other diseases, especially perhaps measles, shows that there can be little hope of completely eradicating rubella by vaccinating everyone against it, and thus the primary policy is to vaccinate females as they approach their child bearing years. Progress with rubella vaccination is reported in later pages, but it is perhaps appropriate to record here the number of cases notified in certain age groups during 1972. The small numbers in girls aged 13 to 15 may be the first sign of the effectiveness of the rubella vaccination campaign.

Table 14. Cases of rubella notified in Bristol, 1972
By sex and age

<i>Age group</i>	<i>Males</i>	<i>Females</i>	<i>Persons</i>
Under 1	39	28	67
1— 4	269	271	540
5— 9	403	414	817
10—11	32	26	58
11—12	19	29	48
12—13	10	27	37
13—14	13	5	18
14—15	14	2	16
15—20	28	47	75

Antenatal rubella tests

In addition to the vaccination campaign in schoolgirls, it is now routine practice to undertake estimation of rubella antibodies in women attending antenatal clinics. These tests will identify the women (less than 1 in 5) who are still susceptible to rubella. Only these women need be concerned if they come into contact with rubella during pregnancy, and since a 'base-line' estimation is available, it is possible to be absolutely certain if they become infected themselves, since their antibody level will rise subsequent to contact. This enables more precise advice to be given about the management of the pregnancy in such cases. Identification of susceptible women during antenatal care has the additional advantage that they may be given rubella vaccine during the postnatal period, so avoiding any risk in future pregnancies.

This routine started in May of this year; by December 31st, 2,588 women had been tested, and 311 (12·0%) were judged to be susceptible.

Infective jaundice (108 cases, 4 deaths)

Although the incidence of the disease has been remarkably low this year, there have been several deaths, most of them in elderly persons, (the ages were 57, 71, 91 and 101). This suggests the accident of infection occurring in the already frail, rather than any unusual virulence of the virus. There was little sign of any trend in the incidence of the disease. Numbers of notifications rose very slightly towards the end of the year, averaging about three or four a week. Most of these were associated with a small localised outbreak in one area of the city.

During the year a review of infectious hepatitis which was based partly on experience in Bristol was published, and aroused world-wide interest*.

Acute viral encephalitis (10 cases, 2 deaths)

There were relatively few cases this year. The organisms were isolated and identified in three cases (Herpes simplex, Coxsackie A9, and mumps).

Two cases of post-infectious encephalitis were reported, one due to mumps, and the other after measles.

Glandular fever (106 cases)

A fairly typical year. There is little fluctuation in the number of cases from year to year.

OTHER CONDITIONS

Scabies

There were 50 reported infestations during 1972, and doubtless many more which were not reported. The sources of referral of those which came to notice were as follows:

From general practitioners			
(a)	Through hospital O.P.Ds.	...	Nil
(b)	Direct, or through H.Vs.	...	18
	From school clinics or inspections	...	13
	From health visitors or district nurses	...	5
	Others	...	12
	Source of referral not recorded	...	2

All cases which are reported are visited by health visitors, who give advice, supervise treatment, identify contacts who may need examination to exclude cross infection, and carry out a follow-up visit after a period of four to six weeks to ensure that the infestation has been eradicated.

Malaria

One case of malaria due to *plasmodium falciparum* was admitted to Ham Green Hospital from the Bristol area during 1972. He was a man of 59, who had been infected in Mozambique.

Research

During the latter half of 1971 and early 1972 there was considerable public concern about risks of lead pollution in parts of Bristol. As part of the investigations related to this, the Epidemiology section organised a survey of blood lead levels in a random sample of Bristol children born in the years 1967, 1968 and 1969.

Altogether 679 children were examined and in this way a baseline of the "normal" level of lead in capillary blood at this age was established. The Chief Scientific Officer's Department undertook these estimations using specially acquired equipment. The blood specimens were collected at specially organised sessions by Medical Officers using a carefully developed technique.

In parallel with this study 120 children of lead workers were examined. Although on balance their lead levels were very slightly higher, no cause for concern was found. Later in the year, similar tests were carried out on school children in Lawrence Weston and Hartcliffe and on adults living in Avonmouth. In these cases also the results were satisfactory and reassuring.

These extensive surveys, involving in all 1,225 persons, have established a method of population sampling for lead ingestion which will, no doubt, be continued on a smaller scale in future years as the need arises.

VACCINATION AND IMMUNISATION

This year the recommended immunisation schedule for infants was modified and now runs parallel to that of most other authorities. From July 1st the primary course of triple vaccine is given at 3 months, 5 months and 11 months of age, thus removing the need for the 18 months dose but still requiring the booster injection of diphtheria and tetanus at 4½ years.

Because of the new programme the number of completed courses for the 1972 born children is fewer than for the corresponding period last year.

Completed D.T.P. Courses in	...	...	...	1971	—	2,150
Children born during the year	...	...	...	1972	—	910

The total number of 1971 born children who had received a full course of triple vaccine by the end of 1972 was 5,158 which represents a protection rate in this cohort of 81%. Poliomyelitis vaccination is a little below this since 5,023 children have been given a completed course giving 80% acceptance.

Smallpox vaccination is no longer advised as a routine for children during the second year of life.

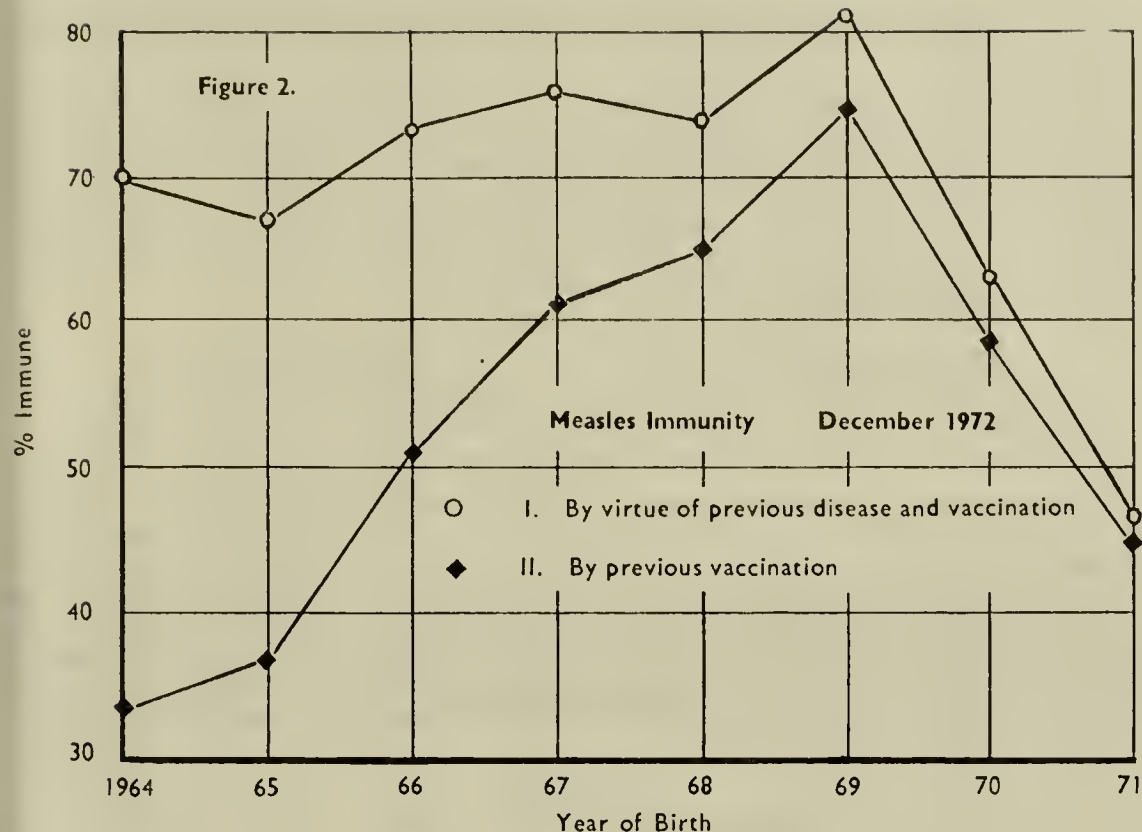
Measles

The only way to eradicate measles is to aim at a 90% protection of our children by immunisation. Until this has been done the disease is likely to remain with us. During 1972, 1,395 children were notified as having had measles and 13 of them needed hospital treatment. During the past year 4,059 children in Bristol received the vaccine and 2,874 of these were given to the 1971 born children. Even this is not enough as the accompanying graph (figure 2) demonstrates. The measles campaign in 1973 will have as its objective the 90% protection rate for children born in 1970 and 1971. Parents with children outside these age groups will also be encouraged to attend.

Rubella vaccination

During the year 1,739 girls in the second year of secondary school have been immunised against german measles. The programme for Bristol schoolgirls begins in the Autumn of the year and is

* Rowland A. J., Skone J. F., Brit. Med. Bull.: 1972: 28: 149: 153.



not completed until April of the following year. Comparison of numbers done each year cannot therefore be made easily, but the acceptance rate for this service has been 81%, which demonstrates a satisfactory response.

At the request of the Department of Health and Social Security an attempt was made to assess the number of children who suffered from some form of complication due to the german measles vaccine.

Questionnaires were sent out to patients 3 weeks after the vaccination had taken place, requesting information on joint pains, shivering, rashes and asking for details of other illnesses. 1,589 letters were sent to parents and 1,270 were returned completed. Some of the answers given on the questionnaires required further investigation and interpretation. Efforts were made to follow up these doubtful replies either by letter or a visit. The column headed "incomplete" in the table of results, is made up of those cases in which a satisfactory answer was not received from the parents.

A breakdown of results is as follows :

Questionnaires				
sent out	1,589	+VE	—VE	Incomplete
Returned	1,270	33	1,203	34
%	80%	2.6%	94.8%	2.6%

Of the children with a complication following vaccination :

- 17 had some joint pains
- 11 suffered from shivering attacks
- 14 had a rash

6 cases of swollen arm at the site of the injection were notified. Other symptoms mentioned, which were considered to be of significance because of their time relationship to vaccination were : Swollen glands, headaches and general lethargy.

Foreign Travel Service

Every day this section deals with about 20 telephone calls requesting information on requirements for foreign travel, advice as to where vaccination may be obtained and the making of appointments for our weekly clinics.

Normally Foreign Travel clinics are held weekly but due to an increase in the numbers of people going abroad it was necessary to arrange to have 2 sessions per week from May until the end of September.

As a designated Yellow Fever Centre the clinic serves an area far beyond the city boundary. In addition to this function services are extended to people who require other forms of protection for Foreign Travel and who are unable to make arrangements with their own practitioner. An extra service is provided for those people who are going abroad on business at short notice, or such holidaymakers who because of inadequate travel information find themselves without sufficient time to complete vaccination courses if they only attend the regular weekly sessions. Special appointments can be made under these circumstances.

Charges are made as follows :

<i>Routine appointments</i>				<i>Special appointments</i>			
Yellow Fever	...	...	£1	Yellow Fever	...	...	£1.50
Cholera	...	...	50p	Cholera	..	...	75p
Smallpox	...	...	50p	Smallpox	...	...	75p

The extra charge is necessary because of possible wastage of vaccine when only a few people are dealt with and the fact that staff have to be taken from other duties in order to cope with these cases.

School children taking holidays abroad with the school are given their injections on the school premises. This requires the visit of a medical officer and a clerk, but in view of the numbers involved at each session it is found to be a worth-while procedure. Ships in Avonmouth docks are visited from time to time and crews are given the required vaccination to bring their certificates up to date. This year the leaflet "Ready to Go Abroad" has been updated and provides a useful information guide for travellers.

Inoculations

Yellow Fever	...	...	1,520
TABT (1)	...	...	498
TABT (2)	...	...	309
Smallpox	...	...	728
Cholera (1)	...	...	1,018
Cholera (2)	...	...	414
Typhus (1)	...	...	19
Typhus (2)	...	...	15

School Sessions

TABT=440 injections carried out at 6 schools

In addition staff authenticated the General Practitioner's signature in 7,323 smallpox and 2,437 cholera international certificates.

METEOROLOGICAL RECORDS 1972 (LONG ASHTON)

Month	Means		Air Temperature (°C)		No. of frost	Rainfall (millimetres)		Sunshine (hours)		Soil Temperature at 0900 G.M.T.		
	A	B	Means of A & B	Diff. from normal		Total	% of Average	Daily Mean	% of Av.	10 cm	20 cm	50cm
January ...	7.0	2.3	4.7	+0.2	15	99.1	110	1.39	90	4.2	4.4	6.0
February ...	7.7	2.7	5.2	+0.5	15	86.0	133	1.63	67	3.7	3.8	4.9
March ...	11.5	3.4	7.5	+1.0	19	61.2	103	4.86	125	5.5	5.7	6.9
April ...	12.0	5.3	8.7	0	8	86.0	150	5.13	98	8.4	8.3	9.2
May ...	14.0	7.3	10.7	-1.0	3	69.4	108	5.0	80	10.7	10.3	11.0
June ...	15.4	8.2	11.8	-3.0	1	67.4	124	4.7	67	13.3	12.7	13.4
July ...	20.2	11.8	16.0	-0.4	0	28.4	34	5.6	90	16.7	15.9	15.6
August ...	19.8	11.3	15.6	-0.5	0	26.4	30	6.3	109	16.2	15.6	16.4
September ...	16.8	7.9	12.4	-1.7	2	24.5	31	4.3	96	11.7	12.5	14.0
October ...	14.6	6.9	10.8	0	5	40.4	41	3.1	159	9.7	10.3	11.1
November ...	9.6	4.2	6.9	-0.2	15	107.5	119	2.1	111	7.5	6.9	8.4
December ...	10.3	4.0	7.2	+2.0	10	146.5	152	1.5	100	5.2	5.3	6.8
Totals or means	13.2	6.3	9.8	-3.1	93	842.8	94.5	4.0	99.3	9.4	9.3	10.3

VENEREAL DISEASES

A. E. Tinkler, M.A., M.D., D.P.H.

(Consultant Venereologist South Western Regional Hospital Board)

In 1972 there was again a marked increase (14%) in the number of new patients seen at Bristol Venereal Disease Clinic.

TABLE 1
NEW CASES – ALL CONDITIONS 1969 – 72
BRISTOL VENEREAL DISEASE CLINICS

<i>Year</i>	<i>All Cases</i>	<i>Bristol Residents</i>
1969	5,624	4,830
1970	7,374	5,624
1971	8,471	6,575
1972	9,650	8,325

SYPHILIS

The incidence of this disease remains low in the city. A total of 31 cases were seen during the year. Of these, 24 were city residents of whom 12 were in the early infectious stages of the disease.

TABLE 2
NUMBER OF CASES OF SYPHILIS SEEN AT THE BRISTOL CLINICS
1970 – 1972

<i>Year</i>	<i>All Cases</i>				<i>Bristol Residents</i>			
	<i>Early Syphilis</i>	<i>Late Syphilis</i>	<i>Congenital Syphilis</i>	<i>Total</i>	<i>Early Syphilis</i>	<i>Late Syphilis</i>	<i>Congenital Syphilis</i>	<i>Total</i>
1970	15	17	2	34	5	16	2	23
1971	23	26	1	50	20	19	1	40
1972	17	12	2	31	12	10	2	24

GONORRHOEA

The incidence of this disease continues to rise and there are no indications that this upward trend is likely to be reversed in the foreseeable future. In the Bristol Clinics in 1972 male cases increased by 9% and female cases by 9.6% over the previous year.

TABLE 3
INCIDENCE OF GONORRHOEA
BRISTOL CLINICS 1955 – 1972

<i>Year</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
1955	236	45	281
1965	543	337	880
1970	983	734	1,717
1971	1,047	687	1,734
1972	1,143	753	1,896

The disproportionate increase in the number of young female patients continues.

TABLE 4
GONORRHOEA BRISTOL (B.R.I. CLINIC)
PERCENTAGE OF PATIENTS UNDER 20 YEARS 1970 – 1972

<i>Year</i>	<i>Male %</i>	<i>Female %</i>
1970	14·0	39·5
1971	14·2	31·2
1972	14·2	38·2

The actual number of patients under 20 years treated for gonorrhoea at the main Bristol Clinic is given in Table 5.

TABLE 5
GONORRHOEA SPECIAL CLINIC B.R.I.
AGE ANALYSIS 1970, 1971, 1972

<i>Year</i>	<i>Under 16 years</i>		<i>16 and 17 years</i>		<i>18 and 19 years</i>		<i>Total under 20 years</i>	
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
1970	6	28	26	91	107	112	139	231
1971	10	23	42	76	97	116	149	215
1972	11	53	45	69	106	165	162	287

SOCIAL WORK AT THE SPECIAL TREATMENT CLINIC

Josephine Merchant and V. A. Dunn

An extract from a memorandum of 1943 sets out the duties of the two social workers who were to be appointed to Bristol's V.D. Clinic.

- (a) Absenteeism—Follow-up of cases to ensure treatment is completed.
- (b) Rehabilitation. Organised after care and help with social problems.
- (c) Regulation 33B. Compulsory treatment.

It is interesting to note the relevance to present day requirements.

In 1972, follow-up work necessitated 2,166 letters and over 1,000 visits. 1,490 patients defaulted and 842 of these were found and persuaded to complete treatment and surveillance. In only five cases were the social workers unsuccessful in locating patients who had not completed treatment, and only one refused to attend when found. Surveillance for syphilis is two years and for gonorrhoea three months; it is in this respect that 642 patients have been designated as 'defaulted'. Reasons for defaulting vary, probably the most important is that many people consider that alleviation of symptoms means complete cure; in this they may be right, but without adequate tests of cure the doctors cannot be certain. These figures also include recall of patients who are under treatment for other conditions, amongst these were repeat cytology tests, which have increased so much that the doctor concerned has agreed to use other resources for this work in future.

The social workers are not complacent about these results and have been examining causes with a view to improving matters. It is noticeable that a much better attendance has been achieved amongst patients who were interviewed by a social worker on the first visit. The most obvious factor in this is that the opportunity arises for sufficient information to be obtained for subsequent tracing. Usually patients are asked to see the social worker only after a specific infection has been diagnosed. Resistant strains and other medical reasons are responsible for delays in this procedure. The number of letters which are returned as 'not known' are a very good indication of the amount of false information which is given when registering. It will be seen therefore that follow-up work is extremely difficult, time consuming and often involves many visits, many miles of travel and odd hours of work.

Social work varies, it may mean constructive listening, practical help with problems of attendance or of hospitalisation, or the giving of considerable and often continuing support. Crisis work not infrequently necessitates week-end working.

Very active measures have been taken to aid some young girls who have been given the life-lines which have enabled them to escape from the mesh of vice in which they were entangled. Others have been guided at an early stage away from sources of potential danger. Of course it is not possible to achieve tangible results in many cases, even so the fact that someone considers it worth the effort is valuable to some instances. At the very least it secures the patient's co-operation when medical treatment may be necessary.

As the incidence of venereal diseases has now far outstripped war-time peaks and discoveries add to the number of diseases known to be sexually transmitted, many people are wondering whether compulsory measures should be re-introduced.

The Bristol team work on the premise that better co-operation is obtained by genuine concern for the patient's welfare, than is possible by co-ercion, or even over-enthusiastic chasing. At the moment there are national trends towards more intensive contact interviewing and tracing methods, techniques of persuasion are being discussed and tried with research into the results. Whilst one would always be prepared to improve one's methods, the danger is that in the short term more information may be elicited, but what of the broader deeper effects on the patients. The danger of ignoring the 'caring' approach is that attempts to break the chain of infection may result in breaking people.

Over the years the social workers have built up another very important function: health education. This starts with the individual patient and extends to a lively role in the work of the teaching hospital and our own Health Education Department. This year Sheffield Regional Hospital Board asked for a lecture to their staff on the Bristol method of contact interviewing.

With all the social changes that have taken place in the past thirty years, it would appear that the basic role of the social work service in Special Clinics is not so very different and is certainly as necessary.

HEALTH CENTRE DEVELOPMENT

F. J. Jones, D.P.A.

(Deputy Chief Administrative Officer)

It is twenty years since the first health centre was opened in Bristol, and 1972 saw the opening of the eighth. This last was provided by large-scale extensions and alterations to an existing local health authority clinic—Charlotte Keel Clinic in Stapleton Road—and the enlarged building now provides accommodation for four practices of local doctors in addition to a chiropody service, a dental service for the priority groups with dental technician's workshop attached, and comprehensive maternal and child health clinic facilities provided by the local health authority, the general practitioners in the health centre, and also by six other practices who have patients in the area but do not practise from this particular health centre. For the time being these premises also act as the headquarters of the local health authority's family planning activities including the domiciliary service. Of a population of some 426,000 about 105,000 adults and children are now receiving general medical care in health centres.

During the year renewed attempts were made to interest the consultants and specialists in the local hospitals in providing out-patient clinics in the health centres, and at the instigation of the health department meetings were held between officers of the Local Health Authority, the Regional Hospital Board, the Board of Governors of the United Bristol Hospitals, the Bristol Executive Council and the chairmen of the house committees of all the health centres to discuss this matter. It is to be regretted that nothing concrete has emerged from those discussions, and that the one or two consultant sessions being held in health centres are only on an informal basis.

During the year some dental practitioners began to express a real interest in providing general dental services in health centres, particularly the health centre to be built at Broadfield Road, Knowle. Several meetings took place, and progress was made to the point where sketches of suitable dental departments were made by the architect. At this point however the local dental committee made it clear that it could not support the project, and although further meetings were held to clarify the situation the committee adhered to its decision and the dentists concerned withdrew their support. It is unfortunate that the dental profession as a whole cannot resolve its attitudes to health centre practice, but it seems that until there is national agreement between the British Dental Association and the Department of Health and Social Security on the financial aspects of the matter, local committees will continue to discourage their colleagues from participating in health centre activities.

During the year the Department of Health and Social Security gave informal approval to schemes for three new health centres—one a new purpose-built centre and two very extensive extensions and alterations to existing clinics:—

Whatley Road, Clifton	—	four practices totalling nine doctors with some 19,000 patients at risk
Hareclive Road, Hartcliffe	—	Extension of existing clinic; four practices totalling eleven doctors with some 18,750 patients at risk
Brooklea, Wick Road, St. Annes	—	Extension of existing clinic; six practices totalling nine doctors with some 21,000 patients at risk

Working drawings for these projects were well advanced and if all goes well building should commence in each case during the period July/August 1973. The Hartcliffe project has a 15 months, the other two 18 months building programmes.

The Department had already given informal approval for a health centre at Barrow Road, but during the year the doctors who were supporting the project expressed doubts, mostly about the site, and accordingly after considerable discussion, the whole scheme was dropped from the capital expenditure programme. However, second thoughts are now prevailing and the doctors, supported by the Executive Council, have asked the Public Health Committee to reinstate the scheme, as originally conceived, in its programme. It is hoped that this will be done and work on the detailed drawings resumed in the next financial year 1973/74.

Preliminary drawings were being prepared for the following new schemes prior to informal consideration by the Department of Health and Social Security:—

Broadfield Road, Knowle	—	Demolition of existing clinic and building of new purpose-built health centre
100 Fishponds Road	—	New purpose-built health centre
Oatlands Avenue, Whitchurch	—	New purpose-built health centre

In addition to this a scheme was being prepared for considerable extensions and alterations to Southmead Health Centre which was first opened in 1969. It is quite clear in retrospect that sufficient allowance was not made for the amount of public sector work which the association in one building of general practitioners and local health authority staff would generate in this particular area. There is a need for additional general practitioner and public dental service accommodation and also for improved nursing officer accommodation, and if the Department of Health and Social Security is prepared to approve the scheme provision will be made for a self-contained peripheral child and family guidance clinic in the new extension.

The question of adequate accommodation in new health centres is one which is causing concern because it has been generally conceded that most of the health centres provided by the local health authority have, in fact, in the end proved too small for the work generated in their areas. This perhaps is due to the too meticulous regard we have had for the recommendations set out in the Design Guide for Health Centres. Our experience has been that the Department has been reluctant to give approval to schemes including accommodation for which there is no immediate pressing need but which might be required for future expansion, but it is to be hoped that in future when closer co-operation between hospital and community is to be hoped for, the Department will be more generous in its approval of schemes which include accommodation earmarked for future development and expansion.

With the transfer of responsibility for health centres from the local authority to a body which may or may not be hospital orientated it is difficult to forecast the future as it affects the provision of health centres. It would be presumptuous to go beyond the end of the financial year 1974/75 when we can expect to have in the Bristol city area a total of twelve health centres catering for some 175,750 persons on the lists of ninety-two general practitioners, some of whom will be based in more than one health centre.

MATERNAL AND CHILD HEALTH SERVICE

Sarah Walker

Principal Medical Officer—Maternal and Child Health Service

There was a sharp decline in the number of births to Bristol mothers in 1972, 5,527 registered live births compared with 6,306 in 1971, giving a live birth rate of 13·1 (15·2 in 1971) compared with a National figure of 14·8.

There was a rise in mortality rates which was disappointing after the very good experience in 1971. The infant mortality rate was 21 (17 in 1971), still-birth rate 14 (12 in 1971) and perinatal mortality rate 23 (21 in 1971). There was one maternal death, the result of a legal abortion carried out in a N.H.S. hospital.

Looking more closely at the infant mortality, the neonatal mortality remained stable, but the postneonatal mortality rate showed a sharp increase, due to increases in mortality from congenital malformations and deaths from ill-defined causes including "cot deaths".

The great majority of infants are now born in hospital, 97·4% in 1972. Only 144 births took place at home. Of the hospital confinements, 40% of mothers and babies came home on or before the 8th day, the majority on the 2nd or 3rd day, to the care of the domiciliary midwives, who continue to visit for the first month.

The scheme, started twenty years ago, by which expectant mothers receive antenatal care from their general practitioners in the local Health Clinics/Centres, provides excellent opportunity for co-operation between those concerned: the general practitioner, domiciliary midwife, health visitor and obstetric physiotherapist. The attendance of consultant obstetricians at seven of the centres, situated some distance from the main maternity hospitals, is greatly appreciated.

At the beginning of May, testing the blood of expectant mothers for rubella antibodies was introduced as a routine procedure in the antenatal clinics. Tests are carried out by the Public Health Laboratory, under the direction of Dr. H. R. Cayton.

Parentcraft classes, including relaxation and exercises, form an integral part of antenatal care. Mrs. Joan McLaren, Obstetric Physiotherapist at the Bristol Maternity Hospital, has rewritten our booklet on "Preparation for Parenthood". The booklet, which has very attractive illustrations by Mr. G. James of Bristol University, gives the up-to-date thought on the place of exercise, relaxation and breathing techniques for the expectant mother. We are greatly indebted to Mrs. McLaren for this excellent booklet.

Family Planning Service

As a result of the Health Committee's decision to allocate additional money in their 1972/73 budget to provide a comprehensive free family planning advisory service for the City, considerable expansion has taken place during the year. Sessions are now held at seventeen main Health Clinics/Centres.

The following figures relate to 1972:—

<i>New Clients</i>	<i>Attendances</i>
2,220	7,092

A domiciliary service was started in January by Dr. Jean Bowie, with financial assistance under the Urban Aid Programme. This service is for women in special need of contraceptive advice, who have either failed to keep clinic appointments or appear unlikely to do so. A home visit by Dr. Bowie to discuss birth control with the patient and where necessary with the husband, may gain their co-operation and Dr. Bowie then normally invites the patient to see her at a convenient clinic/health centre, but is prepared, when necessary, to prescribe in the home.

Under the powers granted by the N.H.S. (Family Planning Amendment Act 1972, the Department proposes to provide a free vasectomy service, using initially the Family Planning Association Vasectomy Clinic already opened at the Horfield Health Centre. The F.P.A. counselling and surgical teams have agreed to hold an extra weekly session to deal with our clients.

Cervical Smear Tests

During the year 7,656 tests (compared with 6,671 in 1971) were carried out at Health Clinics/Centres. Of these, three patients were found to have carcinoma of the cervix requiring hysterectomy, and sixteen had cone biopsies for carcinoma *in-situ*. One patient was referred for removal of a cervical polyp.

In addition to these tests, a mass screening campaign took place in the Stockwood area with

the co-operation of the general practitioners concerned. 864 tests were taken, including 94 carried out at home by the district midwives.

During the year, sessions were held at four local firms, involving a total of 666 tests. One of these clients was referred for a cone biopsy for carcinoma *in-situ*.

At the beginning of 1972, the D.H.S.S. introduced a national scheme for the recall of women for repeat cervical smears every five years. This will not affect our practice of advising women to have repeat smear tests at three-yearly intervals.

Child Health Service

A child health clinic was opened at the new St. Augustine's Church Centre, Whitchurch, providing a much-needed service in a rapidly developing area with many young children.

Reference was made in last year's report to the transfer of administration of Day Nurseries and of the Welfare of Unmarried Mothers to the Social Services Department. The remaining child welfare service due for transfer, namely administration of the Nurseries and Child Minders Act, was taken over by the Social Services Department in August 1972. We continue to advise on the medical aspects, in particular where there are health factors affecting applicants for registration.

Special Families

Dr. C. D. Hopkins, Senior Departmental Medical Officer in the M. & C. H. Section, retired in April, after fifteen years' excellent work, involving social and medical aspects, with special families. As we failed to recruit a medical officer to replace Dr. Hopkins, the general policy was reviewed by the Health and the Social Services Committees.

The Social Services Department have appointed a Court Section of experienced officers who are responsible for investigation of all referrals of neglect or ill-treatment of children. The Health Department continue to provide medical advice as and when required. This involves attendance at Hospital Case Conferences by the Principal Medical Officer, M. & C. H. or her Deputy. When a medical opinion on a child in the community is required, this is referred to the Principal Medical Officer or her Deputy, who either deal personally, or if necessary call upon a Departmental Medical Officer who stands in on a rota basis.

The team of three specialist health visitors continues to make a valuable and important contribution to the work with special families. They now concentrate primarily on families with short or longer term health needs, where close supervision is needed, e.g. babies and young children failing to thrive, children with chronic or recurrent illness, and children brought out of hospital against medical advice.

DOMICILIARY MIDWIFERY SERVICE

Miss W. A. Outram, Non-medical supervisor of Midwives

The Domiciliary Midwifery Service is continuing to develop as that of giving extended antenatal and postnatal care. The midwives link with general practitioners and hospital consultants in giving overall care to the patient throughout pregnancy, making home visits and working in clinics and health centres. Any treatment such as parental iron or hormone therapy requested by the general practitioner is carried out by the midwife as well as the more routine procedures of care. The midwife is not only an adviser to women during pregnancy but also gives health education in the home and at our parentcraft classes (jointly with the health visitor) held in the clinics and health centres.

In March 1972 three midwives helped with the Cervical Cytology programme in the Stockwood area. 94 women who requested for the procedure to be undertaken in their homes were visited by these midwives. In this way it was considered that some women consented to having a cervical smear test who otherwise would not have left their family to go to a clinic or visit a doctor.

210 patients were attended by domiciliary midwives for full maternity care, including the delivery, 144 at home and 66 in the Short-Stay General Practitioner Units at the Bristol Maternity Hospital or Southmead Hospital.

2,108 mothers who had a hospital confinement were transferred within the first few days of the early post natal period to the care of general practitioners and domiciliary midwives. Care is given by the midwife until baby is 4 weeks old, when the health visitor continues to advise.

The pattern of maternity care, that of antenatal and postnatal in the community and the intensive care at the time of confinement within a hospital has been achieved by good liaison and integration of the services.

46 pupil midwives completed their training after a three-month period working with a

domiciliary midwife. During this three months of district training the pupils have the benefit of regular tutorials and advisory visits by our tutor, Miss Day. They also have a programme of visits and talks giving a glimpse of the wide spectrum of health and social services which are available in the community.

Student nurses who are taking the obstetric course during general nurse training, each spend one day with a district midwife. Sharing in the teaching and training of future midwives is another aspect of the liaison which is both essential and apparent between hospital and local authority services.

Mother and baby care is by a team made up of hospital specialist services and midwives, and general practitioners and domiciliary midwives available in the community and based at health centres and clinics.

HANDICAPPED CHILDREN UNDER 5 AND THE ABNORMALITY REGISTER

Dr. Mary Gibson—Deputy Principal Medical Officer—Maternal and Child Health Service.

The accompanying table shows the incidence of major congenital abnormalities in the City for the past 4 years.

It should be noted that the figures for 1972 are provisional, as in certain conditions—fibrocystic disease, congenital heart disease and severe mental sub-normality—more cases will be found as more children are fully assessed.

It is obviously important that those planning future hospital and community services should appreciate the trend of a steady increase in the number of children with congenital abnormalities in Bristol.

Of particular importance are the figures for severe mental sub-normality for 1969, 1970 and 1971. Because of this 15-20 children each year will need special educational facilities and possibly ultimately care in community hostels if these become available or in hospitals for the subnormal. Already three such children born in 1969 have had to be admitted to long term hospital care. There is no indication that there will be any reduction in this annual figure in the near future.

During 1972 Dr. Faulkner has undertaken home visiting of some severely subnormal children under 5 with the particular purpose of assessing and advising on the medical priorities for Day Care help and helping to initiate "holiday relief" for the families of these children.

In the course of 1972 four "refresher" talks were given to Health Visitors on developmental paediatrics. These were planned to highlight the practical application of the intensive course in Developmental Paediatrics and Genetics which has formed part of the Health Visitors' training for some years. This has resulted in earlier referral of children with abnormalities to the Register and already in many cases earlier effective treatment being given.

The D.H.S.S. scheme for the notification to Medical Officers of Health of congenital abnormalities apparent at birth has continued to fall sadly short of the actual figure—even in the case of stillborn anencephalic babies only 9 out of 12 were so notified in 1972.

TABLE 1

Year	No. of Births Live	Still	Anen- cephaly	Overt Spina Bifida	Mongol	Cataract	Cleft lip and/or Palate	Atresia of gut	Pyloric Stenosis	Fibro- Cystic	Hydro- nephrosis	Congenital Heart {Diagnosis} (Complete) normality	Severe Mental Sub- normality
1969	6,462	80	12	25 (11 dead)	15 (1 dead)	1	10 (2 dead)	5	12	4 (1 dead)	1	55 (13 died by 28.2.73)	15
1970	6,256	84	9	25 (13 dead)	6 (2 dead)	0	9	9 (2 dead)	11	3	1	53 (9 died by 28.2.73)	18
1971	6,306	75	12	27 (18 dead)	10 (1 dead)	3	11	9 (5 dead)	15	4 (1 dead)	7 (1 dead)	56 (2 died by 28.2.73)	20
1972	5,527	78	12	18 (15 dead)	10 (1 dead)	2	6	7 (1 dead)	11	4 (1 dead)	5 (3 dead)	49 (14 died by 28.2.73)	Not yet Known

CLINIC ATTENDANCES

				<i>New Patients</i>	<i>Total Attendances</i>
(a)	<i>Antenatal</i>				
	(i)	General Practitioner sessions	...	3,858	28,908
	(ii)	Medical Officer sessions	...	77	573
	(iii)	Consultant sessions	...	1,924	5,665
	(iv)	Midwives sessions	...	40	403
(b)	<i>Postnatal</i>				
		General Practitioners and M.O. sessions	...	2,967	3,274
(c)	<i>Parentcraft Classes</i>				
	(i)	Number of expectant mothers who attended classes	...	...	1,555
	(ii)	Total number of attendances	...	...	5,827
(d)	<i>Special diagnostic Clinic</i>				
	(i)	New patients	...	110	
	(ii)	Attendances	...	164	
(e)	<i>Child Health Clinics</i>				
	(i)	Total number of infants under 1 year	...	...	7,320
		Total attendances of infants under 1 year	...	...	44,925
	(ii)	Total number of children aged 1-5 years	...	...	8,929
		Total attendances of children aged 1-5 years	...	...	28,475
(f)	<i>Health Visiting</i>				
	Home visits (i)	Primary (to new babies)	...	...	5,524
		(ii) Infants under 1 year (excluding (i) above)	...	...	17,964
		(iii) Children 1-5 years	...	...	55,688

DENTAL HEALTH OF MOTHERS AND PRE-SCHOOL CHILDREN

Mr. McCaig, Chief Dental Officer reports:—

Dental Service for expectant and nursing mothers continued to be provided by the school dental officers of the Local Authority who devoted about 1/10th of their time to these patients. The number of patients seen has not varied very much in the past two or three years and the additional paragraph on the new acceptance forms informing parents that the service is available to pre-school children, has not stimulated any general increase. It is a constant endeavour to emphasise the importance of early examination and treatment for young children, because by the time they are seen at school, dental decay in some of them is so bad it is almost 'rampant' and it has been estimated that a quarter of today's five-year-olds will require dentures by the time they are 20 years old.

In successive annual reports the plea for fluoridation has been made and I make no excuse for repeating the statement that fluoridation can halve the dental decay in young children. However, the expectant mother herself can make a useful contribution to the future health and well-being of her baby's teeth. Regular attendance at her own dentist can forestall decay in the early stages; not only the mother's teeth can be cared for but the dentist can make sure that her gums remain in a state of good health, because inflammation can occur during pregnancy and while this usually resolves after the birth of the baby, the condition requires to be cared for in case of complications. The expectant mother can, and probably will, eat a balanced diet and the routine started now should be continued both by the mother and the baby after it is born. Unfortunately this does not happen and because we as a nation love our sweetmeats, there is a tendency to change from the strict routine of the waiting period to a more easy-going attitude about food. A well balanced diet takes time and trouble to prepare and mothers with young children do not appear to have this time. Some mothers go out to work and the child is left with the grandmother or a neighbour and a guilty feeling may arise in the mother who may indulge the child a little more with an increase in its sweet supply to make up for her enforced absence. Increased sugar intake is associated with increased dental decay and the young child introduced to sweet things will carry out this habit all its life, with detrimental effects to his dental health and general health as well.

The deciduous teeth are subject to decay for the same reasons as the permanent teeth, and the remedies are the same. Reduce sugar content, regular brushing and in the case of young children visit the dentist three times a year for check ups; in this way difficulties will be avoided, because first teeth are important, not only in themselves but in their effect on the permanent teeth.

The table at the end of this section shows the work carried out by the Authority's dental officers for mothers and pre-school children.

LOCAL AUTHORITY COMMUNITY HEALTH DENTAL SERVICES FOR EXPECTANT AND NURSING MOTHERS AND CHILDREN UNDER 5 YEARS AS AT DECEMBER 1972

Part A—Attendances and Treatment

Number of Visits for Treatment During Year	Children 0—4 (incl.)	Expectant and Nursing Mothers
First visit	764	411
Subsequent visits	704	838
Total visits	1,468	1,249
Number of additional courses of treatment other than the first course commenced during year	46	20
Treatment provided during the year — Number of fillings	1,206	825
Teeth filled	1,151	788
Teeth extracted	586	284
General Anaesthetics given	235	30
Emergency visits by patients	156	59
Patients x-rayed	7	31
Patients treated by scaling and/or removal of stains from the teeth (Prophylaxis)	36	185
Teeth otherwise conserved	129	

Part A—Attendances and Treatment (continued)						<i>Expectant and Nursing Mothers</i>	<i>Children 0—4 (incl.)</i>
Teeth root filled	...	...	...	...	...		3
Inlays	...	...	...	...	...		1
Crowns	...	...	...	...	...		1
Number of courses of treatment completed during the							
year	...	...	...	...	...	673	316

Part B—Prosthetics

Patients supplied with F.U. or F.L. (first time)	...	1	11
Patients supplied with other dentures	...	1	21
Number of dentures supplied	...	3	46

Part C—Anaesthetics

General anaesthetics administered by dental officers	—
--	---

Part D—Inspections

Number of patients given first inspections during year	1,285	471
Number of patients in A and D above who required treatment	...	...
	826	441
Number of patients in B and E above who were offered treatment	...	...
	808	441
Number of patients re-inspected during year	—	—

Part E—Sessions

Number of dental officer sessions (i.e. equivalent complete half days) devoted to maternity and child health patients:			
	For treatment	...	391
	For health education	...	—

NURSING SERVICES REPORT

Margaretta Marks-Jones
(Director of Nursing Services)

This has been another year of steady progress in the domiciliary nursing service. Community care as we know it today requires the concentrated care of every one concerned, and no one, however knowledgeable or conscientious, is able to achieve efficiency by working in isolation. Every effort was made again during the year to establish effective channels of communication not only between the different services at field level, but also between hospitals and the community. These links have been forged in different ways—local authority nursing officers attending meetings of hospital senior staff, giving lectures at management courses, sharing various study days, making arrangements for hospital nursing officers to visit in the community etc.

As reported in last year's annual report, a suggested management structure for local implementation had been submitted to the Department of Health for approval. This was obtained after some modifications to the original scheme that was proposed, mainly in relation to first-line appointments. The structure of the nursing service in Bristol already conformed in many respects with the recommendations suggested in the Mayston report and at top and middle management level involved no changes of staff but only re-designation of posts. There is a new establishment of 13 Nursing Officer posts with functional organisation. At the end of the year four of these posts had been filled and it is hoped that further appointments will be made in the new year.

Consideration was given to the circular 13/72 'Deployment of Nursing Team' and although it had been hoped to increase the establishment of health visitors and district nurses, this was not possible. The present establishment allows one health visitor and one district nurse per 5,570 and 5,000 respectively of the population. Every effort is made to relieve these members of staff of duties that can be done by lesser qualified persons. These ancillary members give an outstanding service in the department and no difficulty is encountered in their recruitment.

HEALTH VISITING SERVICE

Further progress was made during the year in the re-organisation of the service. By the end of the year 50 health visitors were working in association with 114 general practitioners representing 51 practices. Towards the end of the year health visitors attached to large practices in the eastern boundary of the city began to visit families living in Gloucestershire, likewise health visitors employed by the County Health Authority are visiting families living within the city who are registered with the general practitioners whose surgeries are based in the County. Further attachments are planned and the aim is to have complete and well-established working relationships between health visitors and general practitioners by the beginning of 1974. It is very noticeable in the practices with the longest experience of attachment that the amount of care given to persons between the ages of 17 – 65 years as well as the elderly has greatly increased. Two of the geriatric health visitors are now working closely with two of the consultant geriatricians, a development that has brought an even closer relationship with the hospitals to which the geriatricians are related. An increase of over 5,000 visits were made to the over 65's as compared to the previous year. Hours worked by night sitters to the elderly totalled 14,629 in comparison to 10,171 the previous year.

RESEARCH STUDIES

Health visitors assisted in the following studies during the year—cytology campaign in the Stockwood area, screening of the population for lead absorption and research into the language developments of the pre-school child.

REFRESHER COURSE AND IN-SERVICE TRAINING

Health visitors formed the greater part of the group of 40 members of the nursing staff, taking the first two-day Family Planning Course in October. The course was held at Canynge Hall and organised by the Family Planning Association. Two further courses are planned in 1973.

Eight senior members of staff attended management courses and six health visitors attended refresher courses. Several invitations were extended by the local hospitals for staff to share in their study days. An in-service training course was also arranged for the twelve assistants to health visitors. Many other members of staff were given opportunities to attend seminars and conferences, for which they are grateful.

HEALTH EDUCATION

Health visitors continue to be involved in health education in sessions arranged in health centres, clinics, schools and other places.

Number of sessions held in health centres and clinics	543
Number of sessions held in hospitals	28
Number of sessions held in schools	152
Talks given to a variety of group organisations	88

HEALTH VISITOR TRAINING COURSE

14 students completed the course in September and were successful in their examinations. Of these 12 were appointed as full-time members of staff. Another 13 students commenced the course in October.

COMMUNITY EXPERIENCE FOR STUDENT NURSES AND VISITORS TO THE DEPARTMENT

During the year plans for the Community Care Option for student nurses were made and in October the Community Health Tutor was appointed. Final preparations were made so that the first group of eighteen student nurses could begin a ten-week module of training in community care, commencing in the first week of January 1973. As recommended in the 1969 Syllabus on Nurse Training the programme arranged will provide a theoretical background as well as practical work and observation, and will give the student an appreciation of the type of care to be provided in the community and the factors which will influence the provision of services. The students in each group will be from the three nurse training schools: United Bristol Hospitals, Southmead Hospital and Frenchay Hospital Groups. Experience will be provided for four groups in each year.

It is necessary to consider carefully each new request for student experience in the community, since it results in increasing responsibility and strain on the staff involved and at the same time it is important to consider the families and patients into whose homes the students are taken.

A total of 244 students and pupil nurses accompanied health visitors and district nurses for one-day experience in the domiciliary field. In addition the following students were helped: 11 Diploma in Public Health postgraduate students; 41 Midwives refresher course; 8 Assistant Home Help Organisers; 41 Social Studies students.

HOME NURSING SERVICE

	1971	1972
Total Visits	298,179	309,227
Patients treated in doctors' surgeries	5,020	3,924
New cases referred during year	5,160	5,166

There is a continuing increase in the number of visits paid by the district nursing staff, although the figures of the new cases referred are similar to the year before and less patients have been treated at doctors' surgeries. New cases referred fall into the following categories:

Surgical cases	24%	(11% of these early discharges)			
Cancer	22%	Chest condition	7%	Arthritic	5%
Cardiac	8%	Anaemia	7%	Senility	6%
Stroke	8%	Accident	5%	Others	8%

It is evident that many more surgical cases are being referred from the hospitals. The opening of the new Out-Patients Theatre and short-stay surgical unit in the Phase 1 building at the Bristol Royal Infirmary has not yet made much extra demand on nursing care needed, although individually it has affected the turnover in other surgical wards and more patients are being dealt with and being discharged home early. Similarly at Southmead Hospital patients are occupying less bed time and transferred to district staff. The number of cases referred, suffering from cancer is also high—this nursing is very demanding of the nurses' time and skill as well as being physically heavy and stressful. Many cases receive assistance through the Marie Curie Memorial Foundation mainly for night nursing and night sitting.

This is a valuable aid in terminal situations where the relatives become very strained and and worn out. More of the chronically sick are being discharged from hospital now that the Social Services Department is responsible for providing amenities and many of these require help with bathing and hygiene.

A separate establishment for nursing assistants was approved during the year. This service continues to be invaluable for the elderly and chronically sick patients. During the year the total number of visits again showed an increase.

1971	1972
18,554	22,945

It was decided to appoint some part-time trained staff, 3 in each of the 4 divisions to work in the mornings and to cover the midweek off duty. This is especially helpful where holidays are being undertaken and sickness arises. It is also useful in using manpower economically—they are mainly married women with children and find the hours suit them admirably.

Attachments to the G.P's have gone on steadily during the year and almost invariably this leads to an increase in work load. Cases referred by the G.P's for observation and follow-up are now being undertaken by the Health Visitor, although the latter is often bringing to light patients needing some nursing care or bathing service. The reduction in patients seen at the surgeries may be linked with more G.P's working in Health Centres and nursing staff there undertaking these. At the same time it is interesting to note the chief tasks undertaken by the district sisters, mainly in the surgeries.

Therapeutic	34%	Venepuncture	4.5%
Immunisation, oral and inj.	28%	Ear syringes	1.5%
Dressings	17%	Others	15%

IN-SERVICE TRAINING

Arrangements were made during the year for 50 members of the nursing staff who have been on the staff longer than 3 years to attend an in-service course for training. Weekly sessions are arranged. The staff have found these most valuable. The total number of students trained during the year are as follows :

<i>S.R.N.</i>		<i>S.E.N.</i>	
Bristol	16	Bristol	3
Other Authorities	11	Pupils (integrated course)	30
Lecture Block only	11		

HEALTH EDUCATION

P. Mackintosh

(Health Education Officer)

CERVICAL CYTOLOGY

Early in the year a campaign to encourage all women between 25 and 64 to take a smear test was conducted on the Stockwood estate, a small compact post-war community. About 2,000 women were involved, and each received a personal invitation from their own doctor. The main health education feature was a public meeting held in a school assembly hall on the estate. The meeting, which was addressed by Dr. Walker, and chaired by Miss Barbara Buchanan, was preceded by advance publicity; about 120 posters advertising the meeting were placed on about 30 sites and were in position about 10 days before the invitations were sent out. The posters gave notice of the invitations, as well as the holding of the public meeting. About 2,500 handbills concerning the meeting were distributed by volunteers. Posters and leaflets and press publicity led to the meeting, timed to take place shortly after the invitations had been received. The meeting was followed by further publicity, designed to improve the response to the invitation.

Dr. Peter Dixon, Lecturer in Public Health, University of Bristol, reports—

“An attempt to estimate the relative effectiveness of the various items of publicity was made by a sample survey during the second and third weeks of April, some six weeks after the despatch of invitations. A 5% systematic sample was taken of those to whom invitations had been sent and whose invitations had not been returned as undeliverable. An attempt was made to interview each of the 98 women in the sample and to administer a short structured questionnaire. Eighty-five completed forms were available for analysis. Eighty-four women knew of the campaign and apart from the doctors' letter of invitation, mentioned by 69 of respondents, the posters (53 women) and the evening paper publicity (27 women) were the sources of information which were most often spontaneously remembered. Twenty-four women, while being aware of the campaign, did not know of the public meeting.

Ninety-four people attended the meeting. Those present were asked direct questions about their source of knowledge of the meeting, the posters and handbill being shown when the relevant questions were asked. Similar direct questioning was used in the sample survey on the 60 women who knew of the public meeting. The results are compared below.

<i>Source of information</i>	Total	<i>Sample Survey</i>	<i>Attended meeting</i>
		60	94
Evening paper publicity		18 (30%)	35 (37%)
Advance posters		46 (54%)	52 (55%)
Handbill		27 (45%)	39 (42%)
Health Centre staff		0	1 (1%)
Friends, relatives etc.		12 (20%)	10 (11%)

It would thus seem that the three main methods of publicity were of comparable effectiveness as far as those who knew about the meeting were concerned.”

CONFERENCE FOR YOUNG PEOPLE

The Royal Society of Health in association with the City and County of Bristol, arranged a one day Conference (“La Dolce Vita”) on Wednesday, 28th June for fifth and sixth formers. The aim of the Conference was to give young people the opportunity of hearing from leading authorities about certain problems related to their health. Three papers on Smoking, Drugs and Venereal Disease were presented to an audience of about 250 in the morning; the papers being repeated in the afternoon to another audience of approximately 200. Each talk was followed by a short period of questions and discussions. At the end of each session time was given for completing a questionnaire, but a large proportion of each audience failed to do this.

Summary of answers :

1. 287 questionnaires were analysed.
2. V.D. was the subject of most interest and value.
3. Half the respondents wanted more information on V.D. and Drugs, but less than a quarter on Smoking.
4. More specific information was requested about Drugs.

5. Ten to 12 years was thought the best age for education about Smoking and 12-15 years for Drugs and V.D.
6. The most useful way of giving information was thought to be at school, in small groups, by an outside speaker and in the absence of staff.
7. There was a marked demand for talks by ex-sufferers and for the greater use of visual aids.

FOREIGN TRAVEL IMMUNISATION

The foreign travel immunisation programme continued in 1972. This has been a continuing campaign over recent years. Specially designed posters and leaflets were distributed to travel agents, chemists and G.P's and there was another display in the window of the City Information Centre during January and February. Also, over 100 outdoor poster sites were dressed. Three short talks were included in programmes on Radio Bristol.

VENEREAL DISEASES

By the end of 1972, some 50,800 calls were received on the telephone which is fitted with a recorded message: this total covers a two-year period.

A feature of the V.D. education programme was the making of a film by the Bristol Ciné Society. The film should be ready for release in 1973.

FLUORIDATION OF PUBLIC WATER SUPPLIES

On several occasions in the past the controversy over whether or not Bristol's water supply should be fluoridated has been discussed. On 27th September, 1972, the Public Health Committee agreed unanimously to a motion in favour of fluoridating the public water supply and on 11th October the City Council gave its approval. However, nothing can be done until our neighbouring authorities, who receive water from the same source as Bristol, give their approval. By the end of the year, neighbouring authorities were divided in their opinions and it would appear that arguments for and against will continue for some time.

FIRST-AID TRAINING

Over 750 first-aid lectures and talks were given to a wide range of people; these included doctors, dentists, nurses, school teachers, students, schoolchildren, staff from most Corporation Departments and local commercial and industrial organisations.

A display of posters and first-aid equipment held in January, aroused considerable interest. Full-time 5-day courses have shown a steady increase.

"STOP-SMOKING" MEETINGS

The Deputy and Assistant Health Education Officers have run courses of "Stop-Smoking" meetings since January 1971. In 1972, six courses were held, attended by 81 patients. A course consists of six consecutive weekly meetings, each lasting about 1½ hours, when patients have individual talks with staff, films and lectures, and participate in group discussion. A physiotherapist teaches breathing exercises at one session.

The courses were publicised in the Evening Post, by a display in the City Information Centre window in January, and by a new poster and pads of tear-off leaflets distributed to clinics, health centres and G.P's.

Forty-three per cent of the 142 patients registered in 1971 and 1972 had stopped smoking by their last visit to the clinic. Questionnaires are sent to every registered ex-patient at 6-monthly intervals for two years, to find out whether they are smoking or not, and a preliminary analysis of these should take place in 1973, enabling us to have some idea of long-term "success" rates.

"SMOKING AND HEALTH" STUDY SESSIONS FOR STAFF

The Deputy Health Education Officer arranged study sessions for district nurses, midwives, health visitors and school staff nurses during 1972.

Two afternoons study sessions were held on 10th February and 15th February, attended by about 120 district nurses and midwives. The speakers were Mr. A. B. Byles, Consultant Senior Lecturer in Obstetrics and Gynaecology from Southmead Hospital, on the subject of "Smoking and Pregnancy", and Dr. A. T. M. Roberts, Consultant Chest Physician, on "Smoking, Disease and Longevity". Both sessions provoked a lively question and discussion period.

About 80 health visitors attended a Saturday morning study session on 19th February. The speakers were Dr. Keith Ball, Hon. Secretary of Action on Smoking and Health (A.S.H., an

independent body set up by the Royal College of Physicians to implement the recommendations of its 1971 Report) and Professor Neville Butler, well known to many as the Professor of Child Health at Bristol University, who spoke on "Smoking and Pregnancy".

The termly meeting of school staff nurses on 11th May was also devoted to "Smoking and Health", when the Assistant Health Education Officer spoke on "The Smoking Habit" and discussed influencing smoking behaviour among schoolchildren.

DEVELOPMENT OF THE NUTRITION SERVICES

Miss G. D. Burman, Nutritionist, reports —

"During 1972 great attention was given to the initiation and development of nutritional educational programmes for different sections of the community. A concentrated effort has been made to stimulate interest and circulate accurate information regarding the underlying principles governing the wise choice of food and the influence it has upon health standards.

Emphasis has been laid upon the role of the Nutritionist as an educator regarding Health Department personnel, teachers, parents and the community in general.

Primary School

Through the co-operation of Mrs. M. Dalloway, Inspector of Schools and Organiser of Home Economics, the Nutritionist has had the opportunity to—

1. participate in courses held at Brunel Technical College for teachers responsible for Home Economics in primary schools and for taking children to holiday camps,
2. visit schools and prepare audio-visual teaching aids working with teachers and children,
3. run a pilot course in nutrition for the staff of one specific primary school,
4. talk to all head teachers attending meetings organised by the Chief Inspector of Schools. The aim here was to discourage the selling of sweets, chocolate and biscuits in school tuck shops and to alert head teachers to the high incidence of dental caries and obesity in Bristol schoolchildren.
5. address P.T.A. meetings at head teachers' invitation across the City.

A wholesale fruit firm in Bristol has now undertaken the regular supply of apples to primary schools (at present held at 6½p per lb.) and at the time of writing 56 primary schools are participating in this scheme.

A source centre for nutrition information and audio-visual aids is gradually being developed within the Department and made available to teachers and Health Department personnel.

A source list of audio-visual aids on *food* was prepared and issued to primary schools as part of the general health education programme in March.

Secondary School

Once-termly diet counselling has been continued and group teaching and individual guidance given to children and parents. Health visitors and school staff nurses are extending this service and weighing obese children regularly. As of 31st December, 1972, 751 obese children were under their surveillance.

Plans were initiated for a 1973 nutrition seminar for teachers of home economics and science and follow-up workshop sessions during 1973.

Child Obesity Clinics

These have been continued—246 new referrals

556 follow-ups

have been recorded but now much of this work is done within the school by combined efforts of the Nutritionist, Health Visitor and School Staff Nurse.

Adult Obesity

Regular group therapy classes are now held at Central Health Clinic. These are for men and women. Initially six sessions are held on alternate weeks through the structure of further education classes. The fee for the course is 84p. Continuation courses are organised if required. During 1972 150 men and women attended sessions.

Posters were prepared and circulated to all G.P.'s in the City. The response has been encouraging and the demand is increasing. About 70% of men and women now coming forward are either referred by G.P.'s or have seen the poster displayed in waiting rooms.

Emphasis is placed throughout on the need for wise eating to promote a high standard of health. Weight has been lost, but as yet it is too early to assess how well the weight loss is main-

tained. A re-call service is offered to all class members—for four weigh-ins per year. Results are being monitored.

Domiciliary Visits

These are relatively few, but one is worth recording—that of a 55-year-old woman, height 5' 1" and weight (November 1971) 25 stone +

„ (January 1973) 15 stone 13 lb. Improved physical and mental attitude are very apparent.

Pensioners' Project

A pilot study was organised through the Institute of Adult Education, South Bristol, in an effort to improve communication between ourselves and the older members of the community, and to combat apathy regarding preparation of interesting, nourishing meals.

As a result of an organised tour of O.A.P. clubs in the area to publicise the programme, 153 pensioners registered and attended meetings for six consecutive weeks.

This scheme received wide support from Health, Education and Social Services Departments, and also from commercial enterprises, national organisations and individuals. Pensioners received gift samples of the priority foods. Visiting speakers, demonstrators and pupils from a comprehensive school participated and films were shown. A pensioners' cookery class and weight-check group were organised and the scheme is now being extended.

The project aroused the interest of Louise Davies, Head of the Geriatric Nutrition Unit, Queen Elizabeth College, London, who visited Bristol to meet Health and Education Department personnel for discussion and with the idea of using Bristol for future research.

This is meant to be the foundation of a comprehensive service which should ultimately be offered throughout Bristol.

Lectures; Talks; In-Service Training

Programmes have been extended with the aim of improving communication and circulating sound, basic information—both to Health Department personnel and members of the public.

Health Centre Referral Clinics for G.P's

These have been maintained at St. George, Horfield, William Budd and Southmead Health Centres.

Ante-natal Dietary Instruction at Parentcraft Sessions

The responsibility for this has now been passed to health visitors and midwives and in-service training was given in this respect."

BRISTOL HOME SAFETY COUNCIL—1972

During 1972 there were 36 fatal home accidents in the City—the lowest number for 4 years. Falls accounted for 27 of the victims; there were 6 poisoning accidents, 2 burns and one person was scalded. Most of the victims were elderly females of an age ranging from 70 to 96 years. Perhaps one of the most tragic of accidents was the case of a 5-month-old baby: his father was carrying him downstairs when he tripped and fell. Another of the younger victims was a four-year-old boy who swallowed a number of his mother's slimming pills; he died from poisoning by ponderax. This death highlights once again the need to keep medicines and pills out of reach of small children and if a prescription is no longer required, the medicine or drug should be flushed down the toilet or handed to the nearest chemist.

Earlier in the year there was a collection of unused medicines and drugs. All retail chemists in the City participated and drugs not destroyed were collected by the Police. There was good press coverage as well as an interview by the Hon. Secretary of Bristol Pharmaceutical Committee on Radio Bristol. Altogether, 67,304 tablets and 15,817 capsules were collected and a quantity of strychnine.

During the two weeks following this campaign, all clinics and health centres displayed material drawing attention to the many poisonous substances that are found in households. There was also a display in the window of the City Information Centre.

Another display in October was about burns and scalds, linked with firework safety. The centre-piece of this display was a very much enlarged photograph of a badly burned youngster who had carried fireworks in his trouser pocket. The child was a former patient at Frenchay

Hospital. In 1972, however, no reports were received from Bristol hospitals of any firework accidents during the Guy Fawkes celebrations.

The theme of the display at the Flower Show was "Come Hazard Spotting". A part of the stand was devoted to a competition which was in two parts; in Part 1 competitors were invited to guess the number of pods of poisonous laburnum seeds in a sealed glass jar; in Part 2 pictures of 10 poisonous plants were continuously projected and for each one competitors had a choice of three alternative answers.

Book prizes to a total value of £12 were offered to successful competitors and runners-up. Over 1,100 entries were received.

Another part of the stand featured a hazard spotting quiz. This consisted of 18 photographs of hazards which had occurred and there was a choice of three answers for each one. The participant held a pointer against a metal button beside the answer of his choice; if the correct answer was selected a bell rang; if the wrong answer was chosen, a buzzer sounded.

The stand was manned by volunteers drawn from the Health Department staff, the St. John Ambulance Association and the British Red Cross.

The pattern of home accident prevention has changed over the years. During the 1950's and 1960's there was a very high demand for information and during this period, with the assistance of our volunteer speakers, practically every women's organisation in the City was visited. In more recent times there has been a reduction in the number of requests for speakers, but an increase in the number of requests from schoolchildren, teachers and youth leaders. Very many schoolchildren do projects on home safety, others may be doing the Duke of Edinburgh's Award, or studying for special badges with the Guides and Scouts.

I. Knight (Chairman)

P. Mackintosh (Secretary)

March, 1973

AMBULANCE SERVICE

E. C. G. Joy

(Chief Ambulance Officer)

The most significant episode of 1972 occurred on the evening of Saturday 5th February, when a coach bringing home nurses from Ham Green Hospital, overturned on Rownham Hill at 9.35 p.m.

In the initial stages, as with most accidents, information was difficult to obtain, but Ambulance Control was warned by the first crews attending that the accident was of major proportions and so the appropriate parts of the major disaster procedures were put into operation.

Police, Fire, Hospital and adjoining Ambulance authorities, Somerset and Gloucestershire, were alerted, whilst Ambulance officers were recalled to duty.

The coach had gone out of control whilst descending the hill, striking the wall on the top bend. The side of the coach had been ripped out and the occupants catapulted over the wall into the allotments which slope away sharply to the River Avon at that point.

In the darkness, with a difficult terrain, rescue operations posed a number of problems. Some of the casualties had been thrown a considerable distance from the coach; several had spinal injuries necessitating very careful handling. It was not possible to ascertain in the early stages the exact number of occupants of the coach and an extensive search had to be made of the area to ensure no casualties remained unattended.

It says much for the co-operation received from all the services that by 10.35 p.m. all casualties were at hospital. The final count revealed 15 patients, one fatal, had been recovered from the crash.

This incident highlighted the ready and excellent co-operation that exists between the emergency and hospital services, whilst at the same time drawing the attention of the services to the problems that can suddenly be encountered. It emphasises the need to ensure that plans for dealing with such major incidents are kept under review and staff receive regular training in the implementation of same.

STATISTICS

The work of the service continues to increase and the following tables show the rising volume of patients handled by the service together with the mileage travelled.

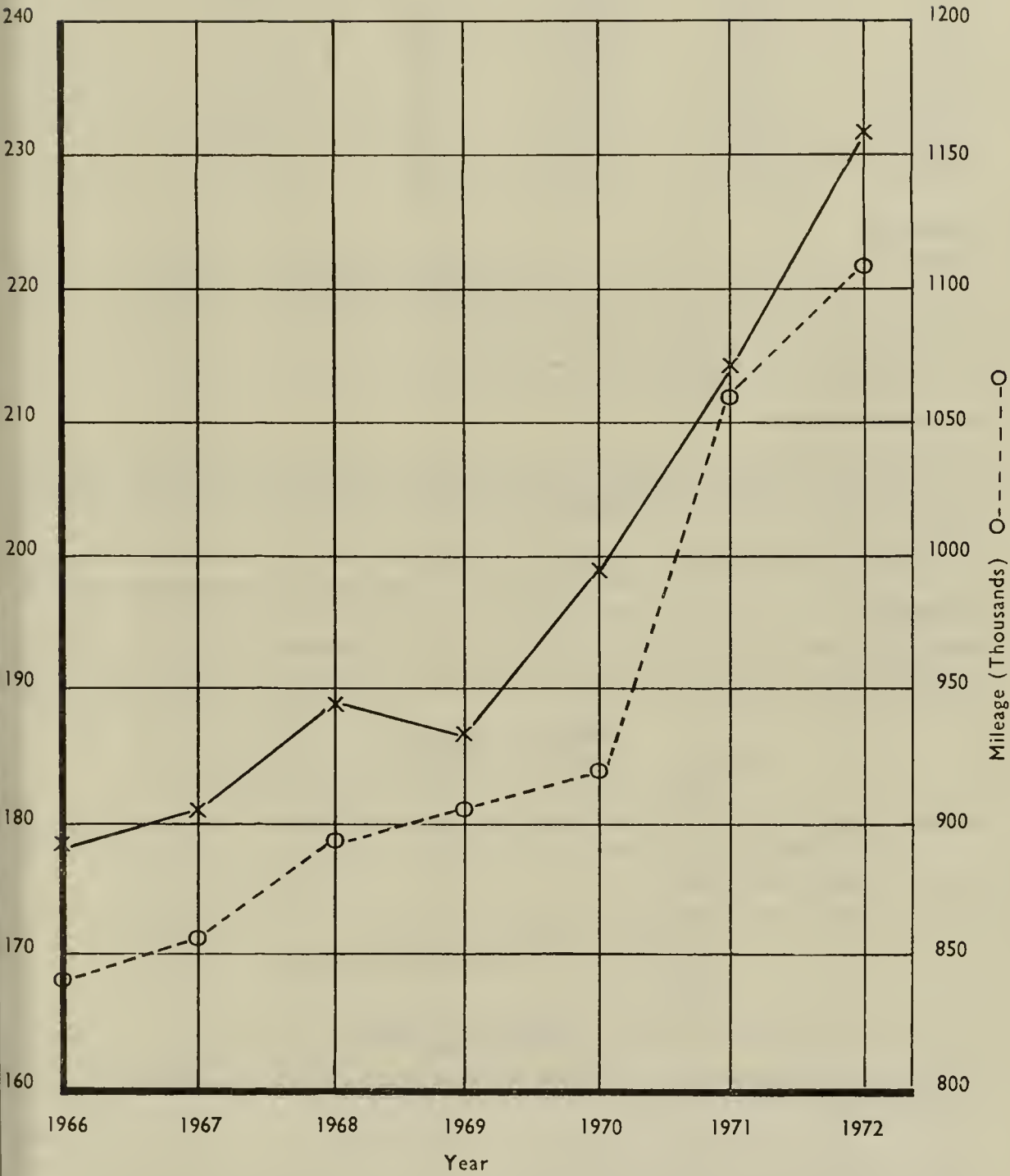
These demands continue to place considerable pressures on all the staff in their endeavours to maintain and wherever possible improve the standard of service provided.

I would pay tribute to the operational staff and their representatives for the co-operation received when negotiating and putting into effect measures to meet these increasing commitments.

STATISTICS 1972

Patients	Bristol Ambulance Service				Supplementary Services		Grand Total
	Month	Accidents	Maternity	General	Total	Taxis		H.C.S.
January	791	153	16,376	17,320	176	1,879	19,375
February	712	140	16,329	17,181	125	1,954	19,260
March	823	177	17,389	18,389	163	2,052	20,604
April	720	146	15,499	16,365	90	1,227	17,682
May	827	141	17,590	18,558	56	1,129	19,743
June	802	158	17,607	18,567	87	1,190	19,844
July	918	141	16,303	17,362	109	1,151	18,622
August	831	139	16,734	17,704	63	1,338	19,105
September	835	140	16,739	17,714	103	1,332	19,149
October	850	119	18,040	19,009	68	1,501	20,578
November	781	141	17,942	18,864	147	1,552	20,563
December	877	150	14,884	15,911	112	1,219	17,242
Totals	9,767	1,745	201,432	212,944	1,299	17,524	231,767

Patients Carried and Mileage
Period 1966 - 1972



STATISTICS 1972

Mileage	<i>Bristol Ambulance Service</i>		<i>Supplementary Services</i>		<i>Grand Total</i>
	<i>Ambulances</i>	<i>Dual Purpose</i>	<i>Taxis</i>	<i>H.C.S.</i>	
January	42,199	32,002	822	18,286	93,309
February	39,748	32,027	631	21,422	93,828
March	43,143	33,935	768	24,445	102,291
April	39,267	30,921	365	12,294	82,847
May	42,426	36,674	243	14,928	94,271
June	42,314	36,723	455	15,248	94,740
July	41,569	34,947	499	11,451	88,466
August	42,536	36,971	302	16,520	96,329
September	41,331	35,654	422	14,032	91,439
October	42,126	37,349	328	14,944	94,747
November	41,025	36,483	593	15,866	93,967
December	39,490	30,331	506	12,006	82,333
<i>Totals</i>	497,174	414,017	5,934	191,442	1,108,567

HOSPITALS

During the year under review, Phase 1 of the Bristol Royal Infirmary development scheme came into operation: the new accident centre and out-patient facilities. Close liaison was maintained between the hospital and the ambulance services prior to the opening and the transition from old to new was achieved with few teething problems.

Glenside Hospital increased significantly the numbers of patients attending for day centre care and this had a considerable impact on the service.

STAFF AND VEHICLES

To meet the rising demands five additional drivers were recruited and three sitting-case vehicles purchased. This enabled one ambulance and three sitting-case vehicles to be added to the availability during the day period each week, Monday to Friday, when most of the additional demands occur.

Committee agreed to order all new vehicles white in colour to conform to the national recommendation. This will ensure uniformity when the integration of services takes place in 1974.

TRAINING

With the co-operation of the Principal Nursing Tutor at the Bristol Royal Infirmary, provision was made for an ambulance crew to be attached to the hospital every two weeks for training. The following is the training schedule undertaken.

United Bristol Hospitals

Programme for Two Ambulance Crew Working in the Accident and Emergency Unit for Two Weeks

Monday Report at 9.00 a.m. to the Nursing Office in the old Bristol Royal Infirmary building, for a conducted tour of Phase 1 of the hospital.

Week 1 Accident Department

Hours of duty	Monday
	Tuesday 10.00 a.m. to 5.00 p.m.
	Wednesday (less 1 hour meal-break)
	Friday
	Thursday 3.00 p.m. to 9.00 p.m. (less $\frac{1}{2}$ hour meal-break)

The Sister in Charge of the Accident Department will arrange that the Ambulance man has the following experience—

- (1) Observe a Clinic with a Consultant (Tuesday afternoon).
- (2) Work with a Casualty Officer.
- (3) Work with a nurse in the Dressing Area.
- (4) Work in the Stretcher Bay Area.
- (5) Help the nurses to receive patients.
- (6) Observe in the Plaster Room.

- (7) Observe in the Resuscitation Room.
- (8) Visit X-Ray Department with a patient.
- (9) Follow the complete treatment of a patient in the department, including admission to the ward.
- (10) Join in the teaching sessions in the department, including one on the problems in the Accident and Emergency Department, dealing with major accidents, etc.

Week 2 Fracture Clinic

Hours of duty	Monday	10.00 a.m. to 12.30 p.m. 1.30 p.m. to 5.00 p.m.
	Tuesday	10.00 a.m. to 12.30 p.m.

Operating Theatre

Tuesday 1.30 p.m. to 5.00 p.m.

The Accident Theatre is on Level 5, Phase 1. (You will be required to change into Theatre clothes when you arrive in Theatre. There will be no facilities to lock up valuables.)

Ward 2 or 4, Phase 1

Wednesday	}	10.00 a.m. to 1.00 p.m. and
Thursday		2.00 p.m. to 5.00 p.m.
Friday		

The Ambulance man will join in the ward work with the nursing team including—

- (1) Bed making.
- (2) Temperature.
- (3) Blood pressure.
- (4) Assisting patients to get up.
- (5) Demonstration of traction equipment and erection of traction in the wards.
- (6) Join in the teaching sessions for nurses in the afternoons.

One Ambulance man will start at Week 1 of the programme and the other at Week 2, and for the second week they will do the other half of the programme.

The following visits will be made by both ambulance men together—

During the first week in the hospital

- (1) Wednesday 11.00 a.m. to 12 noon.
Blood Bank—Level 8, Phase 1.
- (2) Friday 11.00 a.m. to 12 noon.
Medical Illustrations—Mr. Eatough
Level 7, Phase 1.

During the second week in the hospital

- (1) Friday 11.00 a.m. to 12 noon.
Discussion about traction equipment with Mr. G. Garwood
Ward 4, Level 5, Phase 1.
- (2) Friday 12 noon.
Evaluation of programme with Miss C. Panter
Ward 4, Level 5, Phase 1.

This attachment is well received by the Ambulance staff and the hospital is to be complimented on the considerable effort made by the medical, nursing and technical staff to ensure the fortnight is interesting and beneficial.

Miss Pugh, Senior Nursing Officer at the Bristol Maternity Hospital was instrumental in obtaining permission for an ambulance crew to attend the hospital for instruction in emergency obstetrics. With a patient's permission the crew are allowed to be present at the delivery where the problems associated with childbirth can be discussed with the medical and midwifery staff.

These training attachments, together with in-service training sessions on such topics as Major Disaster procedures and Eye Injuries, as well as residential refresher training at the Ambulance Training school in Hampshire ensure the operational staff have the knowledge and ability to cope with the difficult and varied situations they can encounter.

DEVELOPMENTS

With reorganisation close at hand, the Department of Health and Social Security have commenced the issue of Control procedures for adoption by Ambulance authorities to establish standard methods of operational control.

The latter part of the year saw the creation of the Avon Ambulance Working Party, whose brief is to study the many problems which are likely to be faced in the integration of the four ambulance services which will form the new Avon Ambulance Service. Much work lies in front of this working party to ensure integration proceeds smoothly and efficiently.

In conclusion, I would pay tribute to the Hospital Car Service and the organiser, Mrs. Powter, the Taxis Association and the officers and staff of the Transport department on whose assistance the service relies to meet the growing commitments and to ensure the high standard of vehicle maintenance so vital in an emergency service.

CARE AND AFTER CARE

OLD PEOPLE IN BRISTOL

J. F. Skone (Deputy Medical Officer of Health)

At the time of the 1971 Census, there were in Bristol 23,385 people born between 1906 and 1910, 21,400 (15,330 women and 6,660 men) born before 1896. According to National Projections, the number of over 75's will increase by 35% by 1991.

During 1972 12,725 elderly Bristolians received chiropody treatment, nearly 60% in clinics or health centres. During the year ended 31st March, 1973, Home Helps were provided for 6,079 old and chronically sick people and 464,081 Mobile Meals were delivered to approximately 2,200 people, and 516 patients made use of the laundry service for the bed-fast and incontinent. It has been difficult to recruit night-sitters who are paid at the same rate as nursing assistants (47½ pence per hour) but 79 old people were helped in 1971 and 115 in 1972.

By the end of the year, 951 elderly persons' dwellings, about 15 per 1,000 people aged 65 and over (including 663 with wardens) had been provided by the Housing Committee and 686 by Housing Associations including Bristol Old People's Welfare Incorporated, Help the Aged Housing Association, Lansdowne Housing Association and British Legion Housing Association. At 31st December, 1972, there was a total of 1,052 applications for Corporation housing from persons aged 65 years and over. Of these 706 were in respect of one person and 346 of two. On 31st December, 1972, the Corporation was building 220 1-bedroom units, all of which are for elderly persons.

In the Ten Year Development Plan for the period up to 1982/83 Bristol Corporation intends the number of places in homes for the elderly (including the elderly mentally infirm) to increase from 1,117 at the end of March, 1973 to 1,872 at the end of March, 1978 and, 2,393 at the end of March, 1983. The actual number of residents accommodated at the end of March, 1973 was 1,086 although the Social Services Committee was financially responsible for a further 97 aged and disabled persons, in homes provided by voluntary bodies or other local authorities.

In January 1973 Welsman Home (56 beds) was opened, and in the Autumn of 1973 Redfield Home (54 beds) will be opened, followed by homes in Bishopston (37 beds) in June, Hengrove (52 beds) in July, and Whitchurch (50 beds) in August, 1974. In the current financial year (1973/4) it is planned to commence work on two homes for the elderly (30 and 50 beds) and two homes for the elderly infirm (each 35 beds).

Some elderly mentally infirm residents in Corporation Homes were transferred to Gleeson House, which was converted into a 35 bed unit.

There are 615 beds in homes registered under Section 37 of the National Assistance Act 1948. In September, 1968 and again in November, 1972, the Social Services Committee considered Circular 31/68 relating to the Health Services and Public Health Act 1968, but decided not to implement the provisions of Section 44 which would enable them to make arrangements for accommodation in any home carried on by a person registered under Section 37.

Twelve registered nursing homes provide a total of 283 beds for chronically sick patients, nearly all of whom are elderly.

There are many elderly people among the 800 handicapped attending the two Pastime Centres at Lockleaze and Novers Hill. Bristol Association for Elderly People is currently providing facilities for about 3,500 members in 19 clubs.

Present Problems

The area geriatric hospital service has become more active since the appointment of Dr. Lloyd and increasingly so since the appointment of two more consultant geriatricians, Dr. G. Burston in 1969 and Dr. A. Windsor in 1970. Admissions to and discharges from Manor Park Hospital have increased as follows:—

<i>Year</i>	<i>Admissions</i>	<i>Discharges</i>
1966	1,300	530
1968	1,476	851
		<i>Deaths and Discharges</i>
1969	1,558	1,621
1970	2,056	2,090
1971	2,151	2,155
1972	2,038	2,049

(Note that until the end of 1971 patients sent home at weekends were classified as discharges and as admissions to hospital on their return).

Day hospital facilities are however extremely limited, and at the end of the year there were only 18 places available at Manor Park Hospital.

There has been an extension of work in the psycho-geriatric field following the appointment of consultants, Dr. M. Nicholas, in 1969, and Dr. M. Sternberg, in 1971, and a 25 bed psycho-geriatric assessment unit has been established at Manor Park Hospital (several beds are at present occupied by patients who are suitable for residential accommodation for the mentally infirm). About 50 to 60 Bristol patients are attending day centres at Glenside Hospital.

Statistics presented to the Social Services Committee show that substantial numbers of elderly people in the community need admission to residential accommodation and many patients in geriatric and psychiatric hospitals could be discharged. Statistics presented to the Social Services Committee are set out in the following table:—

					<i>Year ended 31st March</i>					
					<i>1972</i>			<i>1973</i>		
Admissions to Homes for the Elderly					<i>M</i>	<i>F</i>	<i>Total</i>	<i>M</i>	<i>F</i>	<i>Total</i>
1.	Holiday admissions	...	...	...	18	27	45	59	96	155
2.	Permanent admissions	...	...	...	80	235	315	101	229	330
Admissions to Homes for the Elderly Mentally Infirm										
3.	Holiday admissions	...	...	...	1	27	28	9	36	45
4.	Permanent admissions	...	...	...	4	18	22	6	19	25
Waiting List for admission to Homes for Elderly (as at April, 1973)										
5.	Living in circumstances as to be at risk	...	...	...	23	87	110	58	191	249
6.	Living with friends, relatives, etc. in unsatisfactory circumstances	...	...	...	17	33	50	31	55	86
7.	Applications due to loneliness or for a specific home	...	...	...	12	26	38	21	48	69
8.	Awaiting discharge from hospital	...	...	...	6	45	51	6	44	50
9.	Applications from outside the Bristol boundary	...	...	...	3	2	5	4	7	11
Totals					61	193	254	120	345	465
Waiting List for admission to Homes for Elderly Mentally Infirm (as at April 1973)										
10.	Living in circumstances as to be at risk	...	...	...	—	—	—	1	7	8
11.	Living with friends, relatives, etc. in unsatisfactory circumstances	...	...	...	3	12	15	—	9	9
12.	Applications due to loneliness or for a specific home	...	...	...	—	—	—	—	—	—
13.	Awaiting discharge from hospital	...	...	...	1	12	13	1	13	14
Totals					4	24	28	2	29	31

Possibly associated with less winter epidemic diseases there was a reduction in deaths in homes from 157 in 1969 to 145 in 1970 and 117 in 1971, but there was an increase to 171 in 1972.

In a rapid review of the situation, it was estimated that there is a need for 300 to 400 additional beds divided between the hospital service and the local authority.

It has been necessary to take action under Section 47 of the National Assistance Act for the compulsory admission of elderly people to homes or hospitals relatively infrequently, in all 50 times in the period 1962/72 including 10 applications in 1972.

Possible Solutions

(a) Short Term

The Social Services Committee has steadily increased its financial provision for community services, as can be seen from the following statistics:—

	<i>1971/72</i>	<i>1972/73</i>	<i>1973/74</i>
Night-sitters	£4,274	£5,150	£7,700
Home Helps	£356,121	£400,260	£593,575
Mobile Meals	£107,041	£126,300	£151,460
Social Workers (fieldwork)	£266,844	£367,495	£491,385

The Public Health Committee has an extensive programme for the development of health centres, 8 of which are operational (total practice populations estimated 105,000).

Age and sex registers of patients have been compiled, and for several years people on the lists of general practitioners at the St. George Health Centre have been offered medical examinations by a departmental medical officer on reaching the age of 65 years, and multiple treatable disabilities have been found. Similar sessions have been established at Fishponds, Stockwood and St. John's Lane Health Centres. A University lecturer in public health has screened patients between 45 and 64 years at Stockwood Health Centre, while the general practitioners themselves have organised a complete survey of patients aged 65 years and over, on their lists. General practitioners at Southmead Health Centre have started screening their patients at the age of 65.

A social worker from the Department of Social Services made two visits a week to Southmead Health Centre, while the former senior medical social worker spent one session a week at each of the remaining health centres, as liaison officer helping general practitioners to select patients who require social case work, which is essentially long-term in nature, or in respect of terminal illness, and also undertook a limited amount of short-term case work.

Facilities were offered to consultant geriatricians, to hold out-patient sessions at Southmead and St. John's Lane Health Centres, and a consultant session at Southmead started in April 1972.

Seven-tenths of patients cared for by district nurses are 65 years or older, and old people make up 8 or 9% of the visits of health visitors. The first district nurse attachment to a general practitioner took place in June 1966, and the second in October 1967, and attachments have proceeded slowly to other practitioners since the middle of 1968, priority being given to doctors working in, or intending to work in health centres. In July 1973 77 district nurses were attached to 166 of the 185 general practitioners with premises within the City of Bristol and there are 51 other practitioners operating from outside the City with Bristolians as patients. It is hoped to complete arrangements for attachments quickly, following the receipt of replies to a further questionnaire from the remaining doctors, some of whom at first refused the offer.

Attachment of health visitors to general practitioners started only in September, 1970, and in July 1973 58 health visitors were attached to 123 practitioners, representing 54 practices. Experience in other areas with complete attachment schemes, is that the percentage of visits by health visitors to old people increases to more than 20.

As a result of these schemes, practitioners and patients enjoy a better service. The work done by district nurses increases by about one-third but travelling expenses are rather higher (9.5%), and there is a need for increased secretarial and clerical help.

(b) Long Term

A start has been made on the deployment of departmental medical officers, in areas corresponding to those of the Department of Social Services, and Corporation doctors are helping general practitioners in the identification of people suitable for registration under the Chronically Sick and Disabled Persons Act 1970, and in the selection of residents for homes for the elderly, and elderly mentally infirm.

The Social Services Committee is finding it increasingly difficult to obtain sites for Homes for the Elderly. There is close co-operation with officers of the Board of Governors of the United Bristol Hospitals and the South Western Regional Hospital Board, especially in the pooling of information about possible sites for new projects.

References

1. THOMAS, P. (1968) "Experiences of Two Preventive Clinics for the Elderly", *B.M.J.* 1, 357-360.
2. ROWLAND, A. J., DIXON, P.N. and HOLLIGER, B. (1970) "Evaluation of Home Nurse Attachment in Bristol", *B.M.J.* 4, 545-547.

Acknowledgments

I am very grateful for the help given by the Directors of Social Services and Housing in the compilation of this report.

ASPECTS OF THE HOUSING OF THE HANDICAPPED

S. Stead, M.B., Ch.B., D.O., D.P.H.,

Senior Departmental Medical Officer (Epidemiology)

HOME DIALYSIS

A full account of this service was given in the Medical Officer of Health's report of 1971.

This year committee approved the conversion of 5 properties for the purpose of home dialysis, these have now been completed and the patients are all functioning quite well. A new departure

has been the purchase of a portable type unit to be used in a case where conversion of the existing property is not feasible. The unit has not yet been installed but we shall look forward with interest at this method which although more expensive than house conversion, has the added advantage that it can be moved from one location to another and made available for another case once the original patient receives a transplant or no longer requires dialysis.

HOUSING PRIORITY ON MEDICAL GROUNDS

During the year 4,099 medical certificates were assessed by a Senior Departmental Medical Officer, 1924 of these were in respect of applicants, the remainder were from those people already in council property but wishing to transfer to more suitable accommodation. The increase in the total of more than 800 over last year suggests that more people are bringing forward medical factors in support of their claim. Top priority Rule 11 cases, in which the medical factors necessitated urgent removal from their present accommodation, were almost the same as last year. Since July 1972 such cases have been considered by the Chairman or housing sub-committee. Attendance at the sub-committee meetings by a medical officer allows for a full consideration of the medical factors before an offer of re-housing is made.

Analysis of medical certificates assessed during 1972

<i>T.B.</i>	<i>Rule 11</i>	<i>Applications</i>		<i>Transfers</i>		<i>Grand Total</i>
		<i>Total supported</i>	<i>Total submitted</i>	<i>Total supported</i>	<i>Total submitted</i>	
1	149	1,275	1,924	1,753	2,175	4,099

HOUSING SUPPORT FOR THE ELDERLY

During 1972 Medical Certificates were examined on behalf of 1,087 cases in the over 65 age group. Of these 392 were new applicants and 695 were asking for transfer. Maximum support—Rule 11 was given on behalf of 81 people making an application for rehousing; demonstrating that this age group provides 54% of the total urgent cases. The majority of these elderly people request, quite naturally, that they stay in the same area as they are living or wish to be relocated in close proximity to their relatives, both factors causing a delay in their rehousing. This problem has yet to be resolved.

CHIROPODY

J. Pugh, F.R.S.H., M.Ch.S., S.R.Ch., Chief Chiropodist

Table A shows the figures for treatment of elderly, physically handicapped and expectant mothers. Table B shows the treatment given to schoolchildren.

The demand for treatment continued to increase during 1972, but because of staffing difficulties the service was not expanded in personnel, and continued at about the same level as in 1971. Consequently the period between treatments increased, and waiting lists increased. The introduction of the Chronically Sick and Disabled Persons Act increased the demand from this type of patient below the retirement age, but many of these patients could not face the long period of waiting and sought treatment from private practitioners, the net result being that the number of such patients remain broadly at the 1971 figure. The total number of patients under treatment increased from 11,629 to 12,924, of which the main increase is of elderly patients, which increased from 11,435 in 1971 to 12,725 in 1972. Table A shows the same sort of comparison in the numbers of treatments, the total in 1971 being 43,973 and 44,169 in 1972. A most significant feature of the total number of treatments is in domiciliary visiting, where the increase in demand and treatment is most acutely felt. Domiciliary treatment in 1971 was 13,337 which increased to 14,209 in 1972. There was a slight drop in clinic treatment from 26,722 in 1971 to 26,362 in 1972. This was mainly due to staffing difficulties. The increase in domiciliary treatment was attained by staff "overtime" working, as the total staffing position was worse in 1972 than in 1971, due to full-time members of the chiropody service resigning and electing to work sessions instead. Two full-time chiropody staff resigned, and one of these is working clinical sessions part-time. For these reasons the chiropody service was closed down at Mary Hennessey Clinic for approximately six months, and William Budd Health Centre for about one month.

This drift away from L.H.A. employment by chiropodists is now assuming very serious proportions. In Bristol, the total establishment is twenty-one full-time posts. At the end of 1972 this was composed of twelve full-time (with one resignation pending) and eleven part-time chiropodists working the equivalent of six full-time posts. The deficiency in three full-time posts of the establishment was, in part, made up by some of the full-time staff working "overtime", mainly in domiciliary visiting at capitation rates, with occasional sessions after normal clinic hours.

The serious national shortage of State Registered Chiropodists is now a matter of concern, and should be notified to the D.H.S.S., by The Association of Municipal Corporation and County Councils Association, with some forceful comments. The Annual Report for 1971/72 of the Registrar for Council of Professions Supplementary to Medicine, shows that the total chiropodists registered on the 1st June 1969 was 4,604, on 1st June 1970 was 4,631, on 1st June, 1971 was 4,657 and on 1st June 1972 was 4,745. Thus over the *three year period* the total increase in registrations was 141 chiropodists. It is not known how many of these did not practise or did not join the National Health Service. A crash programme of training for chiropodists (S.R.Chs.), Chiropody Aides, with a short course for Cosmetic care, and chiropodial technicians for fabricating appliances to a prescription, is a matter of the highest priority to prevent marginally house-bound elderly and handicapped patients becoming a serious liability on institutional care by deteriorating standards of mobility.

There is an enormous saving in costs against public funds by providing health care at home, especially foot health care to elderly and infirm patients, rather than allow them to progress to the state when geriatric hospital or institutional care becomes inevitable. They are obviously happier at home and would rather remain there, if their immediate needs are met. We are now reaching the stage when those chiropody needs are not being adequately met.

SCHOOL CHIROPODY SERVICE

Although the total sessions devoted to this service were slightly reduced due to staff shortages, the total number of treatments increased from 11,223 in 1971 to 12,245 in 1972.

This reflects the greatest credit to the chiropody staff concerned, who worked very hard to maintain this preventive service. Verrucae continued to be the most persistent source of referral for treatment.

The conditions treated were much the same as in 1971, with a small sharp increase in Metatarsalgia (pain in the forefoot). This can probably be attributed to the new style of foot-wear with very high blocked heels. This will pass with the inevitable change in fashion.

Total treatments to all classes of patients in 1972 were 56,414, a record figure, and having in

mind no increase in staff reflects credit on the efficient filling of appointments and conscientiousness of the staff.

The daily monitoring and index card maintenance of records was greatly improved by Mrs. Jones who joined this Section as Sectional Secretary and generally looking after the office clerical needs. With fifteen chiropodists carrying out domiciliary visits and a chiropody service at twenty clinics, 20 Elderly Persons Homes, the maintenance of master index records of new patients, discharges etc. is a vital need. The daily correspondence from General Practitioners, from patients and their relatives, from hospitals etc. is now large and is now completely looked after.

TABLE A

Number of persons treated during year ending 31 December 1972

	<i>By local authorities</i> (1)	<i>By voluntary organisations</i> (2)	<i>Total</i> (3)
Persons aged 65 and over ...	12,677	48	12,725
Physically handicapped or otherwise disabled persons under age 65 ...	170	4	174
Expectant mothers ...	25	—	25
Others ...	—	—	—
Total ...	12,872	52	12,924

Number of treatments given during year ending 31 December 1972

	<i>By local authorities</i> (1)	<i>By voluntary organisations</i> (2)	<i>Total</i> (3)
In clinics ...	26,362	—	26,362
In patients' homes ...	14,159	50	14,209
In old people's homes ...	3,317	281	3,598
In chiropodists' surgeries ...	—	—	—
Total ...	43,838	331	44,169

TABLE B
SCHOOL CHIROPODY CLINICS

No. of Sessions	Infective origin				Orthopaedic anomalies										Nail conditions						Total				
	Verruca		Tinea		Septic lesions		Hammer toe		Metatarsalgia		Pes cavus		Hallux valgus		Ingrowing		Septic		Other		Corns		Other conditions		Total
	1st	O	1st	O	1st	O	1st	O	1st	O	1st	O	1st	O	1st	O	1st	O	1st	O	1st	O	1st	O	
91 Central	446	1,321	5	8	—	—	4	7	3	15	—	—	4	5	7	51	1	—	8	13	41	78	9	—	543
46 Horfield	147	838	—	—	1	—	—	—	—	—	—	—	1	—	1	—	1	—	1	—	—	7	10	11	161
41 John Milton	119	326	7	15	1	—	—	—	—	—	1	4	—	—	4	16	—	—	5	20	14	24	1	2	161
44 Knowle	266	855	—	—	—	—	2	—	—	—	—	—	—	—	2	5	1	1	2	1	1	—	4	2	275
48 Lawrence W.	149	830	7	11	1	1	—	—	2	1	—	—	1	—	11	23	1	1	2	—	7	9	20	—	188
90 Mary Hennessy	363	1,178	2	5	2	—	—	—	1	1	—	—	—	—	1	10	1	1	5	11	30	88	3	3	425
47 Portway	201	1,495	3	1	—	—	—	—	3	6	—	—	5	22	4	3	—	—	1	—	12	46	3	3	232
46 Southmead	199	637	1	3	1	—	1	1	—	—	1	1	4	2	8	8	—	—	4	1	21	18	6	3	246
40 Speedwell	114	432	2	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	9	3	3	2	130
20 St. John's Lane	70	262	—	—	—	—	—	—	—	—	—	—	—	—	2	1	3	1	—	—	4	1	—	—	79
44 Stockwood	108	447	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	4	1	2	1	—	115
32 Brislington	102	357	2	—	—	—	—	—	—	—	2	—	1	—	9	2	1	—	—	—	6	—	8	—	131
589	2,284	8,978	29	43	6	1	8	8	9	23	4	5	16	29	53	119	9	4	29	46	149	275	90	28	2,686
																									9,559
																									12,245

OCCUPATIONAL HEALTH SERVICE

E. P. Hamblett

(Principal Medical Officer, Occupational Health)

INTRODUCTION

The establishment of the Section consists of a Principal Medical Officer, and the equivalent of one full-time departmental medical officer (in sessions spent on pre-employment and periodic examinations), a social worker, a secretary and two clerical officers. The Training Officer (Health Education) has worked part-time in connection with first aid and safety training.

MEDICAL EXAMINATIONS

(a) Pre-employment and periodic examinations

Table 1

MEDICAL EXAMINATIONS 1972

Education	1,518	Airport	17
School Meals	718	City Architect	24
Social Services	711	City Valuer	3
City Engineers	253	Libraries	3
Port of Bristol	68	Town Clerk	29
Waterworks	48	Baths	6
Constabulary	84	Establishment	17
Fire Brigade	77	Housing	24
City Treasury	25	Museum and Art Gallery	4
Crematoria and Cemeteries	8	Probation	6
Pilotage Authority	2	Public Relations	6
South West Exams. Board	5	Health	223
Ashley House	2	Other Authorities	46
Weights and Measures	1		

(b) Special examinations

Employees to a total of 446 were referred for special examinations with health related work problems—and 150 examinations were undertaken amongst certain occupational groups at particular risk.

(c) Claiming against the Corporation

In 44 cases where claims were brought against the Corporation the Service arranged for consultant opinions which were forwarded to the Town Clerk.

(d) Periodic examinations

As in previous years the groups of employees medically examined regularly included the following:—

School Meals staff at 1–2 yearly intervals

School Crossing Patrols 5-yearly till 65 years of age and yearly afterwards

Airport Fire Service staff (vision tests yearly)

Employees at special risk from lubricating and cutting oils examined six monthly.

Certain employees in connection with licence purposes. Air Traffic Controllers and Heavy Goods Vehicle drivers.

MEDICAL QUESTIONNAIRES

The use of a medical questionnaire replacing a full medical examination has been under consideration for some years, the advantage being that a good deal of time and effort is avoided in undertaking full medical examination of a large number of healthy people. Disadvantages include that no base-line medical data is available against which any departure from normal health can be gauged and that the “screening” value of a large number of examinations on persons of wide age and social class group range is lost.

The following is a list of posts for which full medical examination was considered necessary:

1. Drivers and plant operators (full and part-time)
2. Crane drivers

3. Ambulance Operational and Control Room staff
4. Operational Fire Brigade staff
5. Persons on the Disablement Register at first appointment
6. Road Safety Wardens
7. Food handlers, canteen staff etc.
8. Persons having close contact with children
9. Teachers and colleges of education entrants (who require medical reports for the Department of Education and Science)
10. Air Traffic Controllers
11. Public Health Inspectors
12. Persons in certain residential posts
13. Persons at special risk—sewer men, divers, technicians, Museum and Art Gallery conservation and restoration staff
14. Painters at age 45 years at first appointment
15. Posts where head of department has specifically requested medical examination

Since medical questionnaires have been in use (September), 360 persons have completed one, and of these 8 (2.2%) were given full medical examinations, and 31 (8.6%) had restricted medical examination.

TABLE 2
Medical Questionnaires—Commencing 29.8.72 until the end of the year

<i>Department</i>	<i>Questionnaires</i>	<i>Full Medical Examination</i>	<i>Restricted Medical Examination</i>
Health	25	1	2
Education	122	1	22
Social Services	65	1	7
Libraries	19	1	0
Port of Bristol	11	0	0
Housing	48	3	0
Establishment	6	0	0
City Treasury	11	0	0
City Engineers	35	1	0
Town Clerks	14	0	0
Art Gallery and Museum ...	1	0	0
Public Relations	1	0	0
City Valuers	2	0	0
	<hr/> 360 <hr/>	<hr/> 8 <hr/>	<hr/> 31 <hr/>
		(2.2%)	(8.6%)

SCREENING EXAMINATIONS

Female employees 45 years and over were invited to have clinical examination and mammo-graphy—and those who had had a mammogram two years previously were invited to have a repeat examination.

Cervical cytology has continued to be open to Corporation employees as a part of the general City service.

Chest x-rays are offered to all teaching and other staff coming in contact with children.

FIRST AID AND SAFETY TRAINING

The 5-day full-time first aid courses preparing candidates for certificates of the voluntary first aid societies (Red Cross and St. John) have continued through the year at the Bristol City Emergency Control, Flowers Hill, Brislington, by kind permission of the City Engineer.

Safety training was introduced into all first aid courses for a trial period—but was not found to be acceptable, and so this was abandoned in favour of special safety instruction for selected groups. The service has co-operated with other Corporation officers who are particularly concerned with safety training in their own departments.

SICKNESS ABSENCE

A survey of staff structure and sickness absence was completed in the year amongst male manual staff of the City Engineers Department, and the Transport and Cleansing Department for the year ending March 1970.

A summary of the results of the analysis is given below.

A. City Engineers Department (723 male manual workers)

1. 60% of male manual workers were over 45 years (20% over the age of 60 years)
2. A total of 12,067 days were lost due to sickness absence out of a total of 225,576 working days—a sickness absence rate of 5·34%
3. Sickness absence rates varied with age group. At 60–64 the rate was 6·58% and at 15–19 years 6·11%. The lowest rate was at age 25–59 years when it was 3·55%
4. Each worker on average had 2·27 spells of sickness absence and a total period of 16·69 days. Highest values were above 60 years and below 25 years.
5. Sickness absence rates varied with occupational group—being lowest in plant operators (who had a low average age) at 1·94% and in gardeners 3·55%. Rates were highest in general labourers 8·29% and carpenters 8·52%. Sewermen (with a relatively high average age) had a rate of 4·37%
6. Cause of sickness absence. 20·59% were uncertified (4-day and over) absences—and 12·28% were due to uncertified (1–3 day) absences. The commonest certified causes of sickness absence were respiratory illness—22·74% and accidents 12·28%—the latter including accidents both at work, and when not at work.

B. Transport and Cleansing Department (509 male manual workers)

1. 60% were over 45 years and 17% over 60 years
2. There were 11,873 days lost due to sickness absence out of a total of 158,808—a sickness absence rate of 7·47%
3. Sickness absence rates rather similar to City Engineers Department values.
4. There was an average of 1·61 spells of absence per worker in the year, and an average of 23·52 days lost. The highest levels were found at 60–65 years and at 20–24 years.
5. There was little variation of sickness absence rates when different occupational groups were compared. However, the lowest rates were amongst refuse collectors.
6. 34·2% of time lost due to sickness was uncertified—12·8% being 1–3 days absence and 21·4% 4 days and over absences. The commonest certified causes of sickness absence were bone and joint conditions (21·0%)—respiratory conditions (12·77%) and accidents—at work as well as outside work (12·7%)

OCCUPATIONAL HEALTH SOCIAL WORK

Miss Margaret Bottoms, Cert.Soc.Sci.

The Social Worker dealt with 102 cases during the year, 41 new ones and 61 carried forward from previous years.

Given below are tables showing details of referrals, types of problems, and the employing departments concerned in *new cases*

Referrals

(1)	Principal Medical Officer for Occupational Health	...	...	17
(2)	Employer	...	...	7
(3)	Self	...	...	1
(4)	Other Social Worker	...	...	2
(5)	D.R.O.	...	...	—
(6)	Other employee	...	...	—
(7)	Sick return	...	...	14
				<hr/> 41

Type of Problem

(1)	Adjustment to early and inevitable retirement	...	...	6
(2)	Resettlement in work outside the Corporation	...	...	5
(3)	Resettlement in work inside the Corporation	...	...	5
(4)	Financial	...	...	12
(5)	Need for support of one partner of married couple after decease of the other	...	...	1
(6)	Housing and accommodation	...	...	3
(7)	Personal	...	...	6
(8)	Convalescence	...	...	2
(9)	Loan of nursing equipment	...	...	1
				<hr/> 41

Department

(1)	City Engineer	...	...	26
(2)	Education	...	...	2
(3)	Fire Brigade	...	...	1
(4)	Health	...	...	7
(5)	Housing	...	...	1
(6)	Social Services	...	...	4
				<hr/> 41

The problems listed above are in some cases only one of several needing attention by the same individual or family.

Sick Returns were sent every fortnight to the Social Worker by the City Engineer's Department giving the names of employees who had been on sick leave for more than two months. The Social Worker, when her other duties allowed the necessary time, contacted these employees by letter asking them if they would like a visit, having first consulted the Supervisor concerned as to the likelihood of such a step being welcome. A visit was requested in every case except those where the person knew that he or she would be returning to work in the near future. As is seen from the above table 14 employees were visited. In 12 of the cases help was needed with financial matters varying in content from accompanying the person to the office of the Department of Health and Social Security with a view to obtaining satisfactory information with regard to a disablement gratuity, to assistance in completing a Fair Rent Scheme form. Of the 14 cases visited 13 were in need of specific help. All of them were pleased to find some one from the Corporation taking an interest in them.

The amount of help given in new cases as with on-going cases differed with each individual and family, sometimes involving a small amount of help such as one interview and one telephone

call and sometimes needing much more help such as regular visits. One lady only needing a small amount of social worker's time was referred by her Supervisor as she was suffering severe mental stress owing to financial problems. Social Worker learnt that she was shortly to be evicted as she was very much behind with her rent payments and she had been badly let down by her daughter, to whom she had been paying the rent money, who had not passed it on to the Housing Department. Social Worker discussed the financial position with her, and she eventually decided what amount she could pay per week to reduce the debt. The Housing Manager was then consulted and on hearing the social circumstances agreed to postpone any Court action. The Social Worker suggested that he let her know immediately should she fail to pay, and he agreed. The lady called in about 6 weeks later at which time she was much happier and proudly showed Social Worker her rent book which indicated that she had managed to pay the agreed amount. She said how much better she felt after talking about her problems to a person outside the family.

One man who was very deaf and also of a somewhat low mentality was referred by his Supervisor, at the time of his normal retirement, who said that he was a bit backward not being able to read, and that he had been bringing his correspondence to him to read. Social Worker visited weekly for a period of several months until he was rehoused in Corporation accommodation. She found him living in a dreary basement room with a dog, and two birds. She first of all asked if he had a hearing aid and it turned out that he had one but had not used it since 1963, so that an obvious first step was to get some new batteries. This was done and he put the aid to good use straight away. There was a query about his state retirement pension as he could not find his birth certificate and communication with Somerset House revealed that he had been born a year later than he thought. He was not acceptable back at his old job as this was thought to be too heavy for him. However, as his ankle was fractured soon after leaving Corporation employment when he was knocked down by a car his doctor was able to grant a medical certificate saying that he was suffering from the effects of a fractured ankle, and he was thus able to receive sick benefit rather than have to register at the D.E.P. About this time also he was given notice to leave his accommodation, and the problem of his future home became pressing. During these first few visits Social Worker had decided that he had enough common sense and confidence to manage on his own in Corporation accommodation, and so she consulted the Housing Department who told us the procedure for application. He was given a flat and was very pleased about it. He was well accustomed to getting bargains with second-hand furniture and appliances, and he spent wisely the money given for the provision of the few items he lacked by the Department of Health and Social Security. The regular visits had encouraged him to raise his standard of cleanliness and take more pride in his person as well as giving practical help.

In another new case a single man was referred by a hospital based medical social worker regarding accommodation, as he had moved frequently and been unable to settle anywhere. The address held by the Corporation was an out of date one, and Social Worker went to two addresses before finding that he was now living in a Hostel. She found him to be rather lonely and very disturbed because it seemed that he would not be able to return to his old job because of medical reasons. During the time retirement was being considered on medical grounds and also after retirement until he found a job Social Worker saw him once a week in her office, an arrangement which suited him well. He was helped to get through this period of sickness and unemployment by attendance at reading classes being offered by the Education Department to unemployed persons. He was enthusiastic about these classes and reported progress at the weekly meetings with the social worker. Budgeting was also talked about as his income was now lower than it had been and Social Worker was pleased to find that her suggestion, that he cut down on cigarette smoking, which was excessive, was taken and he managed to reduce considerably the number of cigarettes he smoked thus leaving more money for necessary expenses such as laundry payments. After a few weeks he obtained a job for himself as a porter and he had persuaded his employer to allow his hours to be so arranged that he could continue to attend the reading classes.

Help with on-going cases varied in intensity from material assistance such as a holiday or the gift of a Christmas parcel to long term casework. In one of the latter cases S.W. made 14 home visits during the year. This widowed lady suffered from depression, the treatment of which was made very difficult because of her personality, and though complaining of being very lonely she would not make an effort to deal with this problem, countering each suggestion by saying that she was not well or strong enough to go out, although her doctor who had been consulted said that this was not the case. She insisted that if she were moved nearer to her daughter she would be much better and eventually this was effected. Now, however she found some new problem i.e. being marooned on the second floor and not having received as much help as she thought she ought to receive from the family with linoleum laying. Her depression became worse at

this stage and she was admitted to Barrow Hospital but after treatment was considered well enough to return to her flat as another patient had been found to share it with her.

Routine visiting continued in many cases and was welcomed as in former years. An effort was made to enable these sick and disabled people to lead as full a life as possible despite their handicap. In this connection the Bristol Council for the Disabled was called on for help as in previous years to provide Home Work which helped to fight boredom and a feeling of uselessness besides providing a small amount of pocket money.

Attendance at Day Centres, both voluntary and statutory, was again found to be invaluable. Several patients who would not otherwise have had a holiday were able to have one as a result of grants made by charitable organisations. This help was much appreciated by the individual and the family concerned and by the Social Worker.

ENVIRONMENTAL HEALTH SERVICES

T. K. Aston, M.R.S.H., M.A.P.H.I.,

Chief Public Health Inspector

It is my pleasure to present to you my annual report upon the work carried out by the Environmental Services Division for the year 1972. This is my first annual report to you as Chief Public Health Inspector for the City and County of Bristol, and there are several matters, not necessarily contained in the body of the report, which may be of interest to you.

The environmental work of the Division produced some useful results and taking into account the changeover period due to the arrival of a new Chief Public Health Inspector in Bristol, progress throughout has been satisfactory. Perhaps towards the end of 1972 it was noticeable that a little unrest started to show among the staff, for by this time the insoluble problems of local government reorganisation had become apparent carrying with them the uncertainty of the future.

During the year the staff position has remained constant, but most unfortunately in early January the Division suffered a sudden and untimely loss in the death of Mr. C. E. Bowden, the Specialist Public Health Inspector—Housing. Mr. Cyril Bowden had over 38 years housing experience in Bristol and one of his principal contributions was the clearance of unfit property in the City during the post war years. He was a loyal and efficient officer and was considered by many as an authority in housing administration. Secondly, in October 1972, Mr. G. Hooper, the Senior Shops Acts Inspector, who had served the City for 40 years and proved himself to be a capable officer in the difficult application of the Shops Acts, was forced to retire prematurely due to ill-health.

More attention was given to general environmental inspections during the year by the Public Health Inspectors, and the figures reflect the response of the general public in reporting their various complaints. The number of complaints and enquiries received in the Division during 1972 was 18,225 while the number of visits made was 182,112 for that purpose. An increase in the number of noise complaints was recorded for 1972, 265 complaints were received which represents an almost 50% increase in comparison to the figures for 1971. A new social problem has arisen in the residential sectors of the City in the form of noisy all night house parties, particularly at weekends. These activities have brought many complaints to the Division and the Public Health Inspectors have visited dwellings at all hours of the day and night in an attempt to reduce the nuisance. Punitive action has had to be taken against offenders through the cumbersome and somewhat inadequate provisions of the Public Health Acts. There is no doubt the public are becoming increasingly sensitive to noise associated with problem areas created by industry, road traffic, aircraft and domestic behaviour which are beginning to adversely affect the quality of life. During the next decade it is important that scientific knowledge is researched to find remedies to some of these noise sources, and it is now anticipated there are to be changes in the law introducing more stringent control measures which in no small way will help local authorities in this direction.

Because of the shortage of smokeless fuels and the miners' strike, the Smoke Control programme had stood deferred, but it was possible during the year to introduce two Smoke Control Areas which the Council confirmed as Smoke Control Area No. 9 (Avonmouth) and Smoke Control Area No. 11 (Clifton), assurances having been obtained from the Solid Smokeless Fuels Federation that adequate supplies of authorised fuels were available. The problems of the industrial complex at Avonmouth continued to require the undivided attention of the Division in an attempt to pursue a Clean Air policy. The presence of trace metals (lead, cadmium and zinc) had to be considered, not only in gas discharges to atmosphere, but also ground level concentrations, and the monitoring programme has had to be extended to meet this new challenge. A blood lead survey of employees connected with the lead industry and their families was undertaken by the Medical Officer of Health, and at the same time adequate screening and pressure ventilation systems in food producing factories had to be examined because of the possible risk of contamination to open food. Here again is a pollution activity in need of more scientific development in order to safeguard the future of our environment. On a happier note, perhaps it is reassuring to know that the average levels of smoke and sulphur dioxide in the atmosphere are continuing to show a downward trend, no doubt ably helped by the making of Smoke Control Areas, as smoke emissions from domestic premises make the greatest contribution to this problem.

The vacant post of Specialist Inspector—Housing was filled during the middle of the year

by Mr. F. C. Blampied, who was a natural successor having been in the Housing Section of the Division for some time and experienced in this work. The outstanding project for this section for 1972 was the 'Housing Sample Survey' required by the Department of the Environment in order to obtain a national assessment of the country's housing stock, especially with slum and older type property. This involved selecting 1,000 houses at random throughout the city, and the public health inspectors worked assiduously to inspect them and provide this information for the government. In addition, a 200 house survey of property was carried out in the St. Pauls Central area to determine the future policy with this type and age of property. The Section has had quite a successful year in the housing field with these special surveys, and their routine assessment of property throughout the City actionable under the Housing Acts has been maintained in order to improve housing repair and condition.

Your officers have continued to keep up the inspection of all classes of food premises throughout the City together with those food retailers who use markets, stalls and delivery vehicles for this purpose. Unfortunately some of these investigations revealed that there is much left to be desired in the standard of food hygiene practised, and this has caused concern to your officers. Stalls, mobile vehicles and food premises generally have been equally unsatisfactory, particularly in the lack of general cleanliness, personal cleanliness and the poor maintenance of equipment, all of which may expose food to the risk of contamination. Consequently prosecutions have had to be entered into against offending food retailers under both the Food Hygiene (General) Regulations, 1970 and the Food Hygiene (Markets, Stalls and Delivery Vehicles) Regulations, 1966. 25 cases were taken under these regulations and fines amounting to £3,850 were imposed. Education in food hygiene is one way to help reduce offences of this kind and during 1972, a certificate course in the Hygiene of Food Retailing and Catering was introduced. This course extends over a twelve week period and leads to a written and oral examination conducted by the Royal Society of Health. It is suitable for the supervisory type of employee and the response in Bristol through the Brunel Technical College has been most encouraging, as the examination results indicated when 21 students out of 23 who entered for the examination were successful.

My report would remain incomplete without a reference of gratitude for the help of the Health Committee together with the loyalty and efficiency of the staff of the Environmental Services Division during the year which has made my task that much easier to accomplish.

GENERAL ENVIRONMENTAL HEALTH WORK

SUPERVISION OF PLANS

The practice of inspecting plans prior to approval by the Council was continued during the year. The total number of plans received for perusal from the City Engineer and Planning Officer was 1602. Amendments and improvements were suggested in many cases.

WATER SUPPLY

An adequate and satisfactory water supply to the City was maintained by the Bristol Waterworks Company. No action was necessary by the Department with regard to contaminated or unsatisfactory water.

The fluoride content of the water remained the same as for the previous year and was as follows:—

Barrow	...	...	0.04—0.20 p.p.m.
Chelvey	...	...	0.05—0.12 p.p.m.
Stowey	...	...	0.08—0.38 p.p.m.
Littleton	...	...	0.05—0.15 p.p.m.

SEWERAGE AND SEWAGE DISPOSAL

The position regarding sewerage and sewage disposal has improved appreciably during 1972. The three inverted syphons, mentioned in last years report, have been constructed under the river Avon. This has eliminated the discharge of crude sewage into the river from central and eastern areas of the City, Kingswood and Warmley. It means that the sewage from a population of 508,000 is now being treated as against 380,000 before the work was completed. The quality of the water in the river Avon has substantially improved as a result.

Proposals are well in hand for further sewerage works to be carried out. This will eliminate the discharge of crude sewage into the tidal reaches of the Avon and it is hoped to achieve this very satisfactory situation by the end of 1978.

A new survey of premises within the City not connected to the sewerage system was completed during the year. This showed that only 181 such premises exist.

HOSTELS (Common Lodging Houses)

Routine inspection of the three hostels have been carried out during the year. One hostel is maintained by the Church Army and the other two by the Salvation Army. The standard maintained at all three hostels was satisfactory.

THE PET ANIMALS ACT, 1951

170 visits were made to the thirty-one licensed premises under this Act. The Corporation's Veterinary Officer accompanied a public health inspector to the premises prior to them being re-licensed.

THE ANIMAL BOARDING ESTABLISHMENTS ACT, 1963

Two premises were re-licensed under the Animal Boarding Establishment Act. This is a reduction of one from the previous year. As per normal practice the Veterinary Officer visited the premises prior to re-licensing.

THE RIDING ESTABLISHMENTS ACT, 1964

The Veterinary Officer inspected the two establishments within the City prior to re-licensing. Six visits were made during the year.

THE THEATRE ACT, 1968

Applications for licences under this Act were received by the Department. 202 visits were made as a result of these applications.

NOISE

During the year, the Department received 265 complaints concerning noise and vibration, which necessitated 2,246 visits by Public Health Inspectors. This represents a fifty per cent increase in the number of complaints received as against 1971. This accounts for approximately nine visits per working day in respect of noise investigation.

Classification of the noise complaints received compared with that for 1971 shows that under all six major classifications noise complaints have increased, most significantly in respect of that emanating from building and road works. This statistical fact is hardly surprising when one considers the changing sky-line of Bristol. The area close to the City Centre, is dominated by construction sites for new office developments and major highways. The demolition and clearance of sites, together with the subsequent rebuilding of flats, offices and roadways has naturally created its environmental problems, one of which has been noise.

Further classification pinpoints increasing awareness to road traffic noise. This awareness of the general public has certainly increased recently as has the problem itself, by the introduction by British and Foreign manufacturers of larger sized vehicle engines, both in domestic motor vehicles and in commercial vehicles. Current legislation appears to be unsuccessful in keeping vehicle engine and exhaust noise within the constructional specified limits, once the vehicle has left the factory assembly line.

The problem is one of noise and vibration and of sound transmission, which is variable according to site location and characteristics of surrounding environment. Noise from a motorway can be partially absorbed and dissipated in a rural area perhaps where the road passes through a man-made cutting, but that same noise transmitted from a highway in a built-up area with high buildings close to the edge of the carriageway can be increased within the near field range of reflection and refraction, a phenomenon similar to that of reflection and refraction of light from mirrors.

It is within the field of noise control that the greatest developments are anticipated within the next five years. The problem must be overcome by closer co-ordination of all Local Authority Officers, in particular Public Health Inspectors who specialise in noise, with area planners and architects, to ensure correct design and positioning of buildings so as to minimise the effect of industry or highway development on existing or proposed residential areas. This has been clearly emphasised in two major documents published during 1972, the Report of the Urban Motorways Committee, "New Roads and Towns" based on a detailed study of the effects of major road projects in built-up areas, and a White Paper, "Development and Compensation—Putting People First" setting out the Government's proposals in the light of the Committee's Report and of the comprehensive review of the land compensation code the Government has carried out since taking office. Both publications, together with those at present being printed by the Department of the Environment clearly emphasise that roads and public developments must be carefully planned

and positioned to ensure that there is as little detrimental effect on the environment as possible, with particular respect to noise, and where it is not possible to separate roads from residential premises, then barriers to reduce noise levels below a certain level should be planned and provided. The White Paper gives firm assurances that compensation in the near future will be available to householders who have lost amenity, due to noise and fume created by new public development.

Meetings between the Noise Advisory Council and the British Acoustical Society suggest that the Government's proposals, as suggested in their White Paper is near to becoming law, also as reported last year, the new Noise Abatement Act is close to the Statute Books. The meetings held have endorsed both acousticians and industrial opinion that the enforcing officer of any such legislation should be the Public Health Inspector, who has, more than any other enforcing officer, dealt successfully with the implementation of the existing legislation, the Noise Abatement Act, 1960.

During the year, serious noise nuisance was created by the contractors undertaking the City Engineer's main drainage relief scheme, at the Malago Interceptor site. It was reported in 1971 that the advice of the Specialist Inspector dealing with noise had been sought to specify maximum day and night noise limits. The limits in respect of night-time operations have been exceeded and complaints from the local residents received about noise emanating from the air compression plants, tunnel air extract discharges, heavy earth moving equipment and latterly vibration and noise caused by underground blasting. A number of evening visits were made and sound pressure readings taken and resultant meetings with, and recommendations to the contractors have produced, together with correct statement of facts from the Public Relations Office, an improved and tolerable situation as far as all parties are concerned.

Excessive noise and vibration transmitted within Local Authority high rise blocks of flats have again taken up considerable time for investigation. The complaints have varied in character from those arising from lift motors to ventilation extraction plant situated in the roof of the building. The most interesting problem that has arisen, is that thought to be due to the strengthening works that have been carried out in the high rise flats, similar in construction to those which collapsed in Ronan Point. The residents of one main block of flats where strengthening works have been carried out, complain that the metal strengthening framework which completely links and encases the blocks has added to the noise transmitted through the fabric of the units to such a degree that domestic life can be heard from one maisonette to another. Investigations have taken place which confirm that there is a problem. This is to be further investigated by members of your staff with the aid of Bristol University School of Architecture.

Noisy parties during 1972 have resulted in a large number of complaints being made to the Public Health Inspectors Department by individuals and group action in the form of petitions. The most troubled areas are the St. Pauls and Montpellier districts of the City where organised parties are held regularly at certain premises. The parties produce amplified sound as well as noise and vibration created by those participating inside the premises and those coming to and from the premises, and additional problems of public misbehaviour, all of which create a nuisance. Recourse to statutory action under the provisions of the Public Health (Recurring Nuisances) Act 1969 has been necessary and successful on two occasions. The Magistrates in each case were satisfied that a nuisance had existed and made Nuisance Orders to prevent recurrence. One such Order was contravened and resulted in the offender upon summary conviction being fined £25 with £10 costs.

ANALYSIS OF COMPLAINTS OF NOISE — 1972

<i>Source Classification</i>							<i>Number of Complaints</i>
<i>A Industrial (heavy)</i>							
General industrial operations	...	...	...	...	...	...	10
Transportation of industrial products	...	...	...	...	...	...	6
Zinc smelting plant	...	...	...	...	...	...	3
Steam Hammer	...	...	...	...	...	...	1
Scrap Yards	...	...	...	...	...	...	6
Refuse disposal	...	...	...	...	...	...	2
Metalwork	...	...	...	...	...	...	6
Steam discharge	...	...	...	...	...	...	2

} 36

ANALYSIS OF COMPLAINTS OF NOISE — 1972 (continued)

	Source Classification								Number of Complaints
B	<i>Industrial (Light)</i>								
	Launderettes	...	...	...	...	...	...	...	4
	Bakeries	...	...	...	...	...	...	...	4
	Garages	...	...	...	...	...	...	...	8
	Refrigerators and deep freezing equipment	...	...	...	...	...	...	...	9
	Extraction fans	...	...	...	...	...	...	...	3
	Dust extraction	...	...	...	...	...	...	...	1
	Power saws	...	...	...	...	...	...	...	2
	Lift motors	...	...	...	...	...	...	...	4
	Car washing	...	...	...	...	...	...	...	1
	Wine bottling	...	...	...	...	...	...	...	—
									36
C	<i>Building and Road Works</i>								
	Building sites—general noise	...	...	...	...	...	...	...	10
	Pneumatic drills	...	...	...	...	...	...	...	20
	Demolition	...	...	...	...	...	...	...	6
	Compressors	...	...	...	...	...	...	...	2
	Cement hoppers	...	...	...	...	...	...	...	4
	Handrollers	...	...	...	...	...	...	...	1
									43
D	<i>Public Entertainment</i>								
	Juke box	...	...	...	...	...	...	...	10
	Music	...	...	...	...	...	...	...	6
	Cafes	...	...	...	...	...	...	...	10
	Clubs	...	...	...	...	...	...	...	1
	Public houses	...	...	...	...	...	...	...	1
	Fairgrounds	...	...	...	...	...	...	...	1
									29
E	<i>Transport</i>								
	Waterway transport	...	...	...	...	...	...	...	—
	Road traffic	...	...	...	...	...	...	...	20
	Industrial site traffic	...	...	...	...	...	...	...	10
	Railway undertakings	...	...	...	...	...	...	...	3
	Aircraft	...	...	...	...	...	...	...	—
									33
F	<i>Noise from Public and Animals</i>								
	Radio and Television	...	...	...	...	...	...	...	19
	Animals	...	...	...	...	...	...	...	18
	Neighbours—general	...	...	...	...	...	...	...	25
	Parties	...	...	...	...	...	...	...	20
	Band practice	...	...	...	...	...	...	...	2
	Milkman	...	...	...	...	...	...	...	1
	Schools	...	...	...	...	...	...	...	—
	Church bells	...	...	...	...	...	...	...	3
									88
Total									265

HEALTH EDUCATION AND TRAINING

The significant increase in the work undertaken in the training of food handlers reported last year was consolidated during this year and has, in fact, again increased. The food hygiene training programme developed by the department has been attended by all levels of food handlers including management and the attendance figures are well in excess of last year's. The liaison which is being built up between the department and the catering trade, especially in the Hospitals within the city, has been maintained.

In September the course in the Hygiene of Food Retailing and Catering and sponsored by the department commenced at the Brunel Technical College. This was the first such course to be run in the city and it was extremely well supported. Two such courses are planned for each year,

one commencing in January and one in September, and the Specialist Inspector—Health Education and Training, is the course tutor. At the end of these courses the Royal Society of Health's test is taken and the successful candidates obtain the Certificate in the Hygiene of Food Retailing and Catering. Although the first course was specifically aimed at food handlers at supervisory and management level, other courses will be open to all food handlers.

The well established courses which are run for the School Meals Service at their training centre have continued and in fact these have been extended to include assistant cooks in addition to supervisors. As in past years members of staff have also participated in courses at the University and local Colleges including the Diploma in Public Health Course, the Medicine in the Community Course for medical students, the Veterinary Public Health Course and training courses for Health Visitors, Midwives and Nurses.

In addition, a substantial number of talks have been given to local schools and local groups and organisations on a wide variety of environmental health subjects.

TRAINEE PUBLIC HEALTH INSPECTORS

A total of nine trainees were in training at the beginning of the year, one in the Final Year, four in the Second Year and four in the First Year. Two more trainees were appointed with effect from 1st September, one of whom is a graduate in applied biology. As in past years trainees in the department have benefited from the reciprocal training scheme arranged by the Training and Education Committee of the Western Centre of the Association of Public Health Inspectors, and they have also spent time in a number of other departments and outside bodies including Bristol Waterworks, the Bristol Avon River Board and the City Engineer and Planning Officer's Department in Bristol, gaining practical experience in sewage disposal, trade effluent control and refuse collection and disposal.

HOUSING

The problems and prices of housing certainly made headlines nationally and locally during the year when shortage, unsatisfactory conditions and improvement of the nations housing stock and its environment was constantly under review and discussion. The effect of such trends upon the situation in this City is not easy to assess in detail, though the activity by builders appears to be widespread and indicative of a general move towards improving the standard of maintenance of many dwellings and the provision of additional household amenities.

Whilst owner/occupiers are undoubtedly in the vanguard of such operations there has been a noticeable impetus in the conversion and improvement of larger houses. The capacity of the building trade seems to be stretched almost to its limits and long periods of waiting for builders to commence works are now common.

Various factors influence the situation, the effect of the Housing Act 1969, which increased grants payable to owners carrying out improvements, is partly responsible for this increased activity whilst the Rent Act, 1968, together with its successor, the Housing Finance Act, 1972, which enables the review of rents to be made in respect of many properties, has no doubt also influenced progress.

So far as the Department's Housing Section is concerned a general increase in activity can be reported, together with some interesting developments. The number of Closing Orders, Demolition Orders and Undertakings not to use dwellings for human habitation made or accepted during the year reached 185, a 42% increase on the previous year, while the "finished product" in the form of reconditioned and improved dwellings attributed directly to this procedure as indicated by the 94 such Orders which were determined, a 44% increase. A number of Closing Orders were on "whole houses" and their subsequent conversion into flats and maisonettes therefore resulted in a total of 103 dwellings becoming available by this process.

The number of house sales and purchases is reflected in the 15,200 enquiries received by the Department in connection with Local Land Charges searches (slum clearance enquiries) made by Solicitors seeking information about possible action under the Housing Acts. This represents 62 enquiries per working day and an increase of 43% on last years figures.

Surveys

a. Sample

In order to obtain an assessment of the country's housing standards, the Department of the Environment carried out a second National House Condition Survey at the end of 1971 and the results published in 1972 showed a general improvement since the first such survey was undertaken some three and a half years earlier. The Department of the Environment sought to expand the

information available during 1972 when in Circular 50/72 (which dealt with slum and older houses) it called upon Local Authorities to supply estimates of the condition of housing stock in their areas and to indicate their strategy for dealing with conditions found during the next few years. A sample survey was suggested and this was in fact launched towards the end of the year.

This involved selecting a random sample of 1,000 dwellings throughout the City. There being approximately 141,000 separately rated dwelling units, every 141st unit was extracted from the rating lists. Occupiers were written to and a small team of Public Health Inspectors carried out the inspections their findings being tabulated by the Department's statistician using a punch card system. Much useful information was obtained and whilst results of this form of survey are subject to a plus or minus factor, they are nevertheless considered sufficiently accurate to enable a Local Authority to consider their housing situation, to programme future needs and to supply the Department of the Environment with the information requested.

A note of thanks is due to the occupiers of dwellings who co-operated and so enabled this survey, which will be to the ultimate benefit of the community, to be satisfactorily completed.

b. Central Area Survey

A door to door survey of part of the central area of the City was also embarked upon as a consequence of the Housing Act, 1969 and Circular 50/72. The section chosen was an area of St. Pauls comprising 200 houses and consisting of two, three and four storey properties, many known to be in multiple occupation and a considerable proportion having basements. The survey was well under way at the end of the year and preliminary indications were that approximately 50% of the houses were owner/occupied and 50% in multiple occupation. Approximately 19% of the properties and 44% of the basements have so far been found to be unfit. When completed the results will be used to consider future policy as regards repair, improvement and/or redevelopment of the area.

c. Small Areas

Several small groups of houses were also surveyed and reported upon during the year and action to acquire and demolish is in hand, whilst a further area proved to be in better condition than believed and has been dealt with by Part II action and advising owners to seek Improvement Grants as appropriate.

Basement Dwellings

With the increased demand for housing accommodation, together with the availability of Improvement Grants, there is a tendency to bring into use sub-standard basements, some of which have long been disused. The demands on Inspector's time to deal with these has been considerable as wherever possible it is desirable to advise on the requirements of the Housing Act, Underground Room Regulations before any works commence. This entails careful checking and taking of measurements from plans forwarded by the City Engineer, often necessitating one or more site meetings with architects, owners and builders. The sample survey mentioned above has shown an estimated 8,000 of basement dwellings in the City and so there is plenty of scope for action to ensure that they are brought up to a satisfactory standard.

A survey of a terrace of some 45 houses built along the contours of the hilly Totterdown area was carried out. All these properties have basements at the front below pavement level and the only natural light and ventilation to the room is by means of a small window situated below an iron grating in the pavement. These houses are generally in a sound structural condition and, apart from some repairs needed, the main object is to eliminate the dungeon like kitchens which exist in many of the basement front rooms.

Formal action was commenced under the provisions of Part II of the Housing Act, 1957 concurrent with advice on transferring facilities to other rooms in the houses, and assistance which is available by means of Improvement Grants. The process will inevitably be protracted, but already progress is encouraging.

Conservation

This subject has been to the forefront and one aspect of conservation is the renovation of houses. An interesting situation arose in respect of a group of five old cottages which in March 1967 were the subject of a representation by the Medical Officer of Health and subsequently purchased by the Corporation for demolition or possible renovation. When all these properties had become void a start was made on demolition, but in the interim period the area had been designated a conservation area. The matter was raised and as a result demolition was halted to enable their future to be reconsidered. As the restoration of these dwellings by the Corporation was not considered to

be a viable proposition they were offered to the public by open tender for which the highest bid received was £27,000. At the end of the year the matter was still the subject of discussion between the Housing and the Planning & Traffic Committees.

Whilst this highlights the problem of groups of houses, other difficulties have arisen during the course of schemes of renovation. In designating such areas as Clifton, Westbury-on-Trym, Henbury, Kingsdown etc., the retention of groups and terraces of houses coupled with their improvement is one of the objects of conserving our architectural heritage, particularly that of the Georgian period. The restoration of such buildings calls for devoted attention to detail, considerable expenditure and a will to complete the operation by achieving an exterior appearance as closely resembling the original as is possible.

Such admirable objectives do, however, present problems, particularly when trying to ensure that those who will live in such dwellings will not only have modern facilities but adequate natural lighting and ventilation. What was probably servants quarters or storage space in attics or basements is now expected to serve as everyday living accommodation, and whilst the outward appearance of these buildings is of paramount importance, the enlargement of window openings, particularly in basements or attics, or the removal of obstructive additions is some times necessary to ensure satisfactory living conditions within and so enable buildings of the 1770 to 1870 period to fulfil an appropriate place in the 1970s and beyond. Careful consideration is, therefore, given to the renovating problems which arise in an endeavour to suggest solutions, where possible, to these difficulties.

Repairs

The provisions of Section 9 (1) (a) of the Housing Act, 1957 (as amended by Section 72 of the Housing Act, 1969) have been used to obtain repairs to a number of dwellings which, though not unfit, are nevertheless in need of substantial repair. In most cases work has been carried out by the owners but at the end of the year one case had been placed in the hands of the Corporation's contractor to carry out in default. In another case efforts by the owner led him to contact no less than 18 builders before he was able to obtain an estimate coupled with a promise that work could be started within two months. It appears that many builders are reluctant to work in occupied dwellings, especially as they are able to obtain plenty of work renovating void houses.

Housing Finance Act, 1972/Rent Act 1957

The provisions of the 1972 Act included an opportunity for phasing out of controlled rents depending upon the rateable value of such properties. The first phase was due to commence on 1st January, 1973 and to be finished in 1974. The expected effect of this was thought likely to give rise to an increased flow of complaints from tenants who would in effect be asked to pay more rent for the same conditions. The operative date was postponed by the Government's Prices and Incomes Policy freeze but in order to assess the condition of houses where this Department had previously issued Certificates of Disrepair, inspections were made of 20 houses where these Certificates had been issued. The result was 10% of unfitness because no repairs had been carried out by the owners in the intervening years and Closing Orders and Demolition Orders, respectively, were made. This suggested that a review of all outstanding Certificates should be undertaken (a total of 716 have been issued) and after careful scrutiny and removing from the list of all known cases where the Certificates were no longer applicable, a nett total of 217 dwellings remained to be considered. A survey of these was commenced towards the end of the year but in view of the postponement of control and the pressing needs of the Clean Air Section the staff was deployed and the survey postponed.

Review of outstanding Closing Orders

The practice of reviewing all outstanding occupied dwellings subject to such Orders has been continued and whilst most become operative, it has been necessary to require a number of owners to take proceedings to repossess and so ensure compliance with their legal obligations.

Building Regulations—Housing and Public Health Acts

There appears to be an increasing belief by developers, architects and owners who submit plans for Building Regulations approval that such approval provides 'carte blanche' and the requirements of other legislation is overlooked or disregarded. Building Regulations are intended to control the way in which building work is carried out, but it is the Housing and Public Health Acts which in the main require such matters as drainage, natural lighting, water supply, etc., to be provided. This had led to some difficulties occurring when applicants having received Planning and Building Regulations approval are informed that their proposals do not meet the basic require-

ments of these Acts. Many plans, but not all, are forwarded by the City Engineer & Planning Officer to this Department for perusal and observation in an endeavour to resolve this problem at an early stage and the number of such plans received by the Housing Section during the year has been at the rate of nearly 500 per annum.

Certificates of Unfitness

These were requested where dwellings had been acquired by the Planning & Traffic, Education and Housing Committees to enable subsidy payments to be obtained where appropriate. We, thus, act as an impartial referee to apply the Section 4 standards of the Housing Act, 1957 in deciding whether or not to issue such Certificates. 186 applications were received and 131 Certificates issued during the year.

Clearance of Unfit Houses

The causes of delay in demolition of unfit houses are many and varied and often give rise to public concern. The declaration of Clearance Areas, with or without the subsequent use of Compulsory Purchase Orders, also causes concern in many quarters and the acquisition and demolition of unfit dwellings without such powers may be used, though it is sometimes responsible for considerable delays.

At the end of 1972 the demolition took place of three very old almost derelict cottages which had been represented under the provisions of Part III of the Housing Act, 1957 (Clearance Area procedure), the Medical Officer of Health formally representing them on 3rd July, 1962. Early in 1963 the City Valuer was instructed by the Housing Committee to negotiate for their acquisition so that demolition could take place. Difficulties were experienced by the City Valuer in his attempts to acquire and in April 1970 the Medical Officer of Health reported back to the Housing Committee and was instructed to take Part II action in respect of one of the three cottages. In the meantime, one had become vacant and the Committee decided that no further action should be taken in respect of the second cottage which at that particular time was owner occupied.

The Owner/occupier of the second cottage subsequently died and eventually all three properties came into Corporation ownership, the last one during 1971. During this lengthy period one cottage remained occupied by an elderly man and it was not until December, 1972, well over 10 years from the time of making the official representation, that the occupier was re-housed and the property boarded up. Demolition followed quickly so ending the ten year saga of this clearance area.

MEAT INSPECTION

A further decrease in the number of animals killed for human consumption occurred during the year. The high price of meat is thought to be the main reason for this reduced through-put. The number of cattle slaughtered showed a reduction of 16·14%, sheep 1·56% and pigs 31·53%. The number of pigs killed at the Bacon factory was fractionally up on the previous year. Messrs. S. Hendy & Sons purchased the abattoir from the Corporation. This has not changed the Department's responsibility and functions but may affect our training facilities in the future.

Specimens for educational and research purposes were supplied to the University of Bristol, Secondary schools, and the Natinal Blood Transfusion Service. The lecture room was used for training of Veterinary surgeons, Public Health Inspectors and visiting school children studying biology.

No bovine carcasses were found to be affected by tuberculosis and seven carcasses were affected by localised cysticercus bovis. These were kept in cold storage for such time and temperature as required in the Meat Inspection Regulations, 1963.

780 pig diaphragms were submitted to the Zoology Department of the University of Bristol for detection of trichinella spiralis. All were reported as negative.

The Department received assistance and advice from the Public Health Laboratory, The Zoology Department of the University and the Veterinary School, University of Bristol, and the Department wishes to express its appreciation to the officers concerned.

Sampling

(a) Pet Shops

Sampling of meat for pet animals continued, samples of raw meat obtained from the knackers yard and cooked meats from pet shops in addition to the knackers yard. 325 samples were sub-

mitted, 141 for raw meat of which 20 were reported to be Salmonella positive and 184 samples of cooked meat of which 9 were positive. Further details are included in the following table together with details of sewer swabs etc.

	Knacker Meat		Horse Meat		Sewer Swabs	Bedding from Cattle Lairs	Butchers' Meat	Mesenteric Glands	Pigs Liver	Others	Total
	Meat	Liver	Meat	Liver							
SALMONELLA											
agama	—	—	1	—	—	—	—	—	—	—	1
agona	—	—	—	—	6	—	—	3	8	—	17
anatum	—	—	1	2	4	—	—	1	2	—	10
bovis morbificans	—	—	—	—	1	—	—	—	—	—	1
dublin	7	2	6	1	10	—	—	—	—	3	29
enteriditis ...	—	—	—	—	—	—	—	1	—	—	1
give	—	—	—	—	1	—	—	2	3	—	6
heidelberg ...	—	—	1	—	—	—	—	—	—	1	2
typhimurium ...	—	—	5	3	2	—	—	3	—	—	13
	7	2	14	6	24	—	—	10	13	4	80

The total number and types of *Salmonella* isolated since the commencement of sampling in 1961 are shown in the following table.

SALMONELLA	Meat	Liver	Heart	Kidney	Tongue	Kangaroo Meat	Butchers' Meat	Sewer Swabs	Bedding from Cattle Lairs	PIGS				Totals
										Caecal Contents	Liver	Mesenteric Glands	Miscellaneous	
adelaide	—	—	—	—	—	4	—	—	—	—	—	—	—	4
agama	8	3	1	—	2	—	1	12	—	—	—	—	—	27
agona	—	—	—	—	—	—	—	6	—	—	8	3	—	17
anatum	2	4	—	—	2	3	—	5	—	1	3	3	1	24
archavaleta	—	—	—	—	—	1	—	—	—	—	—	—	—	1
bahrenfeld	—	—	—	—	—	1	—	—	—	—	—	—	—	1
bareilly	—	—	—	—	—	—	—	1	—	—	—	—	—	1
bovis morbificans	7	1	—	—	—	—	2	1	—	—	—	—	—	11
binza	1	—	—	—	—	—	—	2	—	—	—	—	—	3
brandenburg	1	1	—	—	—	—	—	1	—	—	—	2	—	5
chester	1	—	1	—	—	4	—	1	—	—	—	—	—	7
derby	2	—	—	—	—	—	—	2	—	—	—	—	—	4
dublin	50	28	9	1	4	1	—	20	4	—	1	2	3	123
einbuettal	—	—	—	—	—	—	1	—	—	—	—	—	—	1
enteritidis	1	—	—	—	—	—	—	—	—	—	—	2	—	3
fischerkiety	—	—	—	—	—	—	—	—	—	—	—	1	—	1
give	—	—	—	—	—	1	—	1	—	—	3	2	—	7
good	1	—	—	—	—	—	—	—	—	—	—	—	—	1
haelsingberg	1	—	—	—	—	—	—	—	—	—	—	—	—	1
indiana	1	—	—	—	—	—	2	1	—	—	—	1	—	5
makumora	—	—	—	—	—	—	—	1	—	—	—	—	—	1
meleagridis	3	—	—	—	—	—	—	—	—	—	—	—	—	3
mikaivasema	—	1	—	—	—	—	—	—	—	—	—	—	—	1
minnesota	—	—	1	—	—	—	—	—	—	—	—	—	—	1
montevideo	—	1	—	—	—	—	—	—	1	—	—	—	—	2
muenchen	—	—	—	—	—	1	—	—	—	—	—	—	—	1
naigoya	—	—	—	—	—	—	—	4	—	—	—	—	—	4
newport	2	—	—	—	—	—	—	—	—	—	—	—	—	2
oranienburg	1	—	—	—	—	1	—	—	—	—	—	—	—	2
orion	—	—	—	—	—	1	—	1	—	—	—	—	—	2
panama	—	—	—	—	—	—	—	1	—	—	—	—	—	1
poona	—	—	—	—	—	—	—	—	—	—	—	1	—	1
reading	—	—	—	—	—	—	—	—	—	1	—	—	—	1
rubislaw	—	—	—	—	—	1	—	—	—	—	—	—	—	1
saint paul	1	—	—	—	—	—	—	—	—	—	—	—	—	1
san diego	—	—	—	—	—	1	—	—	—	—	—	—	—	1
schwarzengrund	—	—	—	—	—	—	—	1	—	—	—	—	—	1
singapore	—	—	—	—	—	—	—	—	—	—	—	1	—	1
stanleyville	—	—	—	—	—	—	—	—	—	—	—	1	—	1
stanley	2	1	—	—	—	—	—	—	—	—	—	—	—	3
taksiny	—	1	—	—	—	—	—	—	—	—	—	—	—	1
thompson	1	—	—	—	—	—	—	—	—	—	—	—	—	1
tennessee	—	—	—	—	—	—	—	1	—	—	—	—	—	1
typhimurium	38	21	9	8	4	1	—	24	2	1	5	16	—	129
varjena	2	1	1	1	1	1	—	—	—	—	—	—	—	7
virchow	—	—	—	—	—	—	—	—	—	—	—	1	—	1
zhlendorf	—	—	—	—	—	1	—	—	—	—	—	—	—	1
unidentified	7	—	3	—	—	3	—	2	—	—	—	5	—	20
new sero type	1	—	—	—	—	—	—	1	—	—	—	4	—	6
heidelberg	2	—	—	1	—	—	—	1	—	—	6	7	1	18
	136	63	25	11	13	26	6	90	7	2	27	52	5	463

(b) Butchers' Shops/Meat Depots

Random sampling of meat from butchers' shops produced no positive results of Salmonella during 1972. In 1971 one sample of each of pork and beef proved positive. The total number of samples taken is shown in Table 13 with a further break down of the figures into different categories of meat.

MILK AND FOOD INSPECTION

New Legislation

The Food (Control of Irradiation) (Amendment) Regulations 1972

In 1967 Regulations were introduced to prohibit the irradiation of food intended for sale for human consumption and also the sale in this country of irradiated food. Amendment Regulations were made in 1969 so that irradiated food could be incorporated in sterile diets as an essential part of medical treatment.

The Amendment Regulations which came into operation on 1st April, 1972 raised the low level of irradiation permitted by the 1969 Amendment Regulations from not more than 10 rad of ionizing radiation, to 50 to enable certain quality control equipment to be used.

The Bread and Flour (Amendment) Regulations 1972

These Regulations, which came into operation on 1st November, 1972, extend the list of bleaching and improving agents which may be present in flour. They also amend the specified forms in which the nutrients—chalk, iron, vitamin B.I. and nicotinic acid or nicotinamide are required to be added to flour.

The Lead in Food (Amendment) Regulations 1972

With effect from 1st January, 1973 these Regulations amend the Lead in Food Regulations 1961 by imposing a limit of 0.5 parts per million of lead in food especially prepared for babies.

In the case of any such food in a dried, dehydrated or concentrated state that bears instructions on the container for reconstitution or mixing with liquid before being consumed, the limit will apply to the food as reconstituted or mixed in accordance with those instructions.

The Poisons (Amendment) Rules 1971

Came into operation on 1st January, 1972. These Rules made amendments to the Poisons Rule 1971 by further restricting the sale and supply of cyanides and enlarging the range of articles containing phenols which are exempted from Part II of the Act and from the Rules of 1971.

Food Labelling

In anticipation of the coming into force on the 1st January, 1973 of the Labelling of Food Regulations 1970, all prepacked foods, sampled for chemical analysis were examined before submission to the laboratory.

The packaging and labelling was carefully compared with the new legislation. In general, the change was gradual and began 2 – 3 years ago when the new Regulations were published and manufacturers seemed anxious to comply with the law as soon as possible. Bristol firms produce, design and print vast numbers of packets, wrappers and labels used in the food trade throughout the country. Many enquiries were received from representatives of this industry. A great deal of care and caution was required when offering an opinion on this subject, as a small error in printing could lead to a loss of a considerable sum of money.

One chain of retail outlets estimated at least £10,000 extra ticketing for displaying non prepacked foods.

Lead in Food

This section was considerably involved in the examination of food etc. for lead contamination. In addition to the normal routine sampling a number of special surveys were undertaken.

In the Avonmouth area sampling was conducted at six selected premises. Samples were taken in various stages of manufacture and storage, and included were samples of dust deposits from window sills and ledges. The results were collected and presented as the subject of a special report.

Lead in Baby Food

Late in the year, in anticipation of the proposed amendment to the Lead in Food Regulations, a small survey of canned baby food was completed. No adverse report was received.

Lead in Milk

The sampling of raw milk direct from the farms in the area continued satisfactorily.

Lead in Drinking Water

In spite of widespread press and television coverage of this subject, surprisingly few enquiries were received from the public. Every enquiry received attention, and samples indicated levels well within the recommended limits.

Lead in Shellfish

Monitoring lead levels in shellfish processed and sold in Bristol, was widened and samples of foreign fish and foodstuffs were taken. The data added to the existing information, contributed to a clearer overall picture of the expected levels of metals to be found in shellfish.

Preservatives in Food

During the year no report was received of any preservatives being found in any milk, butter or cream samples.

Sulphur dioxide and benzoic acid found in soft drinks, sauces, dried fruit and preserves were within the prescribed limits.

Reports on two samples taken during a routine survey of canned meat products gave results outside the limits for sodium nitrate. Contact with the manufacturers (a well known and usually reliable company) secured the immediate withdrawal of stocks from sale.

It transpired during subsequent investigation that although the company had made every endeavour to locate all products manufactured before the implementation of the Amendment Regulations, there had been insufficient time. The product had been made to an original recipe and had a shelf life of at least two years.

No formal action was taken on this occasion because of the manufacturers reaction and their willingness to co-operate.

National Pesticide Survey

The section once again participated in the above Scheme organised by the Local Authorities Associations. The required samples were submitted to the Public Analyst for examination. In addition to the National scheme, various other items of food were submitted including cod roes, spices, and fruit etc. During the spring, interest was taken in the sale of exotic-oriental fruit and vegetables. Unusual named species were sampled for the purpose of identification and all were finally examined for pesticidal residues. No unusual features were reported. Samples of the following fruit and vegetables were obtained:— Dasheen; Pimento Seed; Cinnamon Stick; Yam; Green Peppers; Aubergine-Melenzane; Cocoa Yam; Corriander Leaves – Dunia; Cudue; Plantain; Chillies; Cho-Cho; Red Peppers; Sweet Potato; Ginger Root; Garlic; Dried Red Chillies; Quosh Cudu; Cudue Jenella; Pumpkin; Ockra; Mangoes.

Swimming Bath Waters

Bacteriological and chemical samples of water were taken regularly from public swimming baths within the City, and liaison has been maintained with the technical section of the Baths department. On a few occasions some adjustment to the ph. or chlorine levels was required, but no adverse bacteriological reports were received.

CONSUMER COMPLAINTS

Consumer complaints amounted to 424, which indicated an increase of approximately 9 per cent over the previous year. These complaints covered a very wide range, examples of which are shown in the appendix to this report.

Mouldy Food

Food contaminated with mould growth accounted for 64 complaints but the types of food involved remained typical. Included were cheese, canned foods, meat pies, bread, pastries etc. Bread as usual was the most affected. Although the overall figures for the year were higher it is encouraging to note that mould contaminated food figures showed a decrease of approximately 24 per cent. No opportunity was missed in pointing out the importance of careful stock rotation, the lack of which is the cause of many complaints.

Bottled Milk

Complaints concerning dirty milk bottles and foreign matter in bottled milk amounted to 27 incidents. Whilst these figures represent a slight decrease over the previous year they are still

somewhat disappointing, especially as one large dairy now produces a percentage of its daily throughput in non-returnable containers. The general problem of milk bottle complaints is for technical reasons difficult to solve, the public at large could do much to improve the situation by preventing the misuse of bottles. The dairy industry must make every effort to ensure that no unsatisfactory bottles of milk are delivered to the consumer by using whatever means available to prevent such incidents.

Metals in Canned Food

Fruit and Fruit Juice

This section has become increasingly aware of the incidence of high tin levels found in canned fruit juices especially orange and grapefruit. Although there is no legal standard, a maximum level of 250 ppm. is recommended. However, there is some evidence to suggest that concentrations at a lower level can make a juice unpalatable.

There were occasions when complaints of vomiting were associated with these juices. A vigorous survey of canned juices was carried out and the co-operation of shopkeeper and wholesaler obtained in tracing several batches of borderline products — which were withdrawn from sale. There is now a welcome trend of using glass containers for these products which should obviate any future problems of this nature.

Food Poisoning

83 confirmed cases of salmonella were investigated during the year. These investigations followed the usual line of enquiry into diet etc. The presence of domestic pets received special attention.

A special exercise was carried out in order to obtain more information concerning a new type of salmonella: — S. Hadar. In close liaison with the Principal Medical Officer (Epidemiology), one inspector handled all the investigations into this particular type but despite very careful enquiries very little progress was made.

Among the number of food poisoning incidents two occurred almost simultaneously in May. The first involved two skittle teams playing at a public house. About sixty persons attended, and during the following thirty to sixty hours, twenty-five developed symptoms of a moderate to severe outbreak of food poisoning. One interesting point emerged, the caterer who was not known to this department, was found to be operating from one room in the City. The premises were inspected and found to comply with the Food Hygiene Regulations, and arrangements were made for the address to be placed on list of food premises for regular inspection by the District Inspector.

The second incident occurred at a wedding reception where the bride and groom and seventeen guests were affected. The first indication was the receipt of a request to have the icing from the wedding cake analysed. When further enquiries were made it was revealed that the chicken served cold at the buffet had been deep frozen birds, thawed out, and then cooked in an ordinary domestic oven. It was concluded that insufficient time had been allowed for the complete thawing of the birds prior to thorough cooking. The friend of the family who had done the catering was advised on these points.

ATMOSPHERIC POLLUTION

Smoke Control Areas

The Department's work load in respect of smoke control areas this year has been one of the lightest since Bristol embarked upon its programme to cover the whole of the City in 1957. This was primarily due to the shortages of fuel created during the 1969/70 period when there was a national problem brought about by under-estimation of fuel demand by the National Coal Board and more recently by the coal miners' strike, both of which contributed to the complete cessation of Smoke Control Orders. Consequently, with no Smoke Control Orders made since 1969 and no Order becoming operative this year, there have been only a very limited number of applications received for grant-aided works of conversion.

However, assurances have now been obtained from all solid fuel distributors in the City that no further shortages are likely to be experienced, a fact borne out during last winter when there was at all times an abundance of all types of authorised fuels within the South West Region. In the light of these assurances, the Council made two further Smoke Control Orders in July, the No. 9 Order covering the whole of Avonmouth and Shirehampton, and the No. 11 Order covering the Clifton Ward of the City, adding a further 4,726 acres and 12,533 premises to the 7,519 acres and 28,697 premises throughout the City already subject to smoke control. Both these Orders are awaiting the confirmation of the Secretary of State for the Environment.

It is now confidently expected that, providing finances permit, the Smoke Control programme will be able to get back into full swing, a view endorsed by Committee authorisation in the latter part of the year, for a further two areas to be surveyed with a view to the presentation of reports for the Public Health Committee's consideration in 1973. If this new rate of progress is approved and maintained it could mean that the whole of Bristol could become smoke controlled by 1981, fourteen years after the target date for completion of the original smoke control programme approved in 1957.

Infringements of the Clean Air Acts, 1956/1968

During the year, a total of 3,877 observations were made in connection with smoke emissions which revealed the following:—

- 13 contraventions of Section 1 of the Clean Air Act 1956 – emission of dark smoke from chimneys;
- 3 contraventions of Section 2 of the Clean Air Act 1956 – emission of Smoke from chimneys of premises situated within Smoke Control Areas;
- 1 case of a smoke nuisance under Section 16 of the Clean Air Act 1956;
- 9 contraventions of Section 1 of the Clean Air Act 1968 – emission of dark smoke from trade premises.

Notices in accordance with Section 30 of the Clean Air Act 1956 were served in respect of six of the above contraventions and three successful prosecutions were taken under the provisions of Section 1 of the 1968 Clean Air Act in connection with the emission of dark smoke from trade premises. One of these was taken by virtue of the provisions of Section 19(2) of the 1956 Clean Air Act, as amended by paragraph 8 of the First Schedule to the 1968 Act, in respect of an emission observed by two senior inspectors of the Department the source of which was within the adjoining Rural District of Long Ashton.

Once again, a large number of observations made have been in connection with the Bristol Royal Infirmary and Bristol General Hospital incinerator chimneys, both of which have given cause for considerable concern. The solution to this problem is twofold, (1) to provide fully trained hospital furnace operatives who understand and are able to operate plant efficiently, and (2) to provide one new purpose-built incinerator capable of burning the ever increasing quantities of plastics and PVC waste created by modern hospital procedures.

As reported last year the latter solution would appear to be the most satisfactory long term answer to this problem and this is the course of action which has been taken by the Board of Governors of the United Bristol Hospitals. A new incinerator plant, now well under construction outside Bristol, should be commissioned during the coming year and will serve the United Bristol Hospitals Group. Similar problems of smoke emission which have been experienced from the incinerator plants at Southmead and Glenside Hospitals are also being overcome by the provision of new plant at each location.

Grit, Dust and Fume

Attention has been focussed during the year by both the Department of the Environment and the Chief Public Health Inspector's staff on the problems of dust and fume, particularly that of a toxic nature associated with industries within the Severnside/Avonmouth industrial complex.

I reported last year that work of air pollution monitoring and sampling of milks, vegetations, dust, soils and rhine water had been carried out around the industrial area of Avonmouth, due to the Local Authority's concern over the possibility of undue high levels of heavy metal deposition in the area. This has been continued and intensified. The Local Authority's fears that factory hygiene, ventilation and extraction within a local zinc and lead smelting plant was not up to the required standard to safeguard the health of those working in the premises, was confirmed when action was taken by the Company after Ministerial intervention, closed the plant for a period of three months. The Company subsequently carried out works costing in excess of half a million pounds to improve the working conditions within the No. 4 complex, as a direct result of the recommendations made in the report of the Windeyers Commission set up by the Department of the Environment. The works carried out will greatly improve the atmospheric conditions inside the factory, and should have an incidental effect of improving the external atmospheric conditions and thus reduce the levels of trace elements found in the area.

During the year, several additional alterations have taken place in the Avonmouth area, which should improve the local atmospheric conditions. Demolition of the old vertical retort smelter situated at Imperial Smelting Corporation premises, together with its associated sulphuric acid plant, has commenced. Within the same site, total demolition of the only beryllium plant left in this part of the country has already taken place, all works being carefully controlled and

the environmental conditions monitored continually to ensure that no high levels of toxic dust have been created, which might have given rise to health hazards to life in the area.

The demolition, clearance and improvement of industrial sites within the City during the year is topical and in vogue. Work is well under way on the part clearance of the Stapleton Road Gas Production Unit. This has involved problems for the Gas Board Engineers as they have had to dispose of hundreds of tons of residual emulsions which were by-products that have been stored over the years, in underground wells on site. These tar emulsions, after initial problems, are being successfully incinerated on site using the catalytic beds which originally formed part of the cyclic process for gas manufacture. Ironically, a Company which was originally formed to deal with the Gas Board's residual tars, namely, the British Steel Corporation, has also been carrying out demolition of old plant and replacement by up-to-date equipment which should not only improve industrial efficiency but reduce atmospheric emissions.

It is refreshing for your officers to be able to report that there has been active co-ordination inter-departmentally this last year. This has extended from the exceedingly good service as always provided by the City Scientific Adviser's Department to the Acting City Planning Officer's Department and the Acting City Engineer's Department. Representative officers from these Departments have been present at all meetings arranged to discuss preliminary details of new proposed large scale developments within the City, at which time developers have been advised by the officers of the information necessary should they submit to the Local Authority formal application for development. This approach, together with careful analysis of the scientific facts pertaining to levels of pollution within the district, will safeguard the interests of the developer and the amenity and health of the general public residing in the area adjacent to the development.

Towards the end of the year, work commenced on a fresh industrial survey of all premises within the City to establish a more up-to-date picture of the total quantity and nature of emissions to atmosphere. This is aimed at establishing improvement in atmospheric conditions throughout Bristol, by way of prevention rather than cure nuisances that have been reported by members of the public to the Public Health Inspectorate. This survey will be time-consuming and may well take years to complete. It is intended to first survey premises which are considered to be likely "detrimental" emitters. Where faults in plant or equipment are found, or where arrestment is not provided for, although necessary, then works of improvement or installation of new plant will be recommended. Too long, have Local Authorities been waiting for problems to be brought to their notice. The time has come for a 'seek and find' approach to all problems relating to environmental health.

New Furnaces and Boiler Plant

During the year, in accordance with Section 3(3) of the Clean Air Act 1956, notification was received in respect of 93 boiler and furnace installations in 92 premises. In addition, 24 formal applications were submitted for chimney height approval under the provisions of Section 6 of the 1968 Clean Air Act, of which only one was not approved. In this case, the chimney was of insufficient height to adequately disperse the products of combustion, having regard to the rate and quality of emission and the positions and heights of the surrounding buildings. The fact that only one application was formally refused does not imply that all the remaining 116 furnaces that were proposed for installation during the year were completely to the satisfaction of the Public Health Inspectorate. Most of the notifications received formally were as a direct result of enquiries made at the planning stages of development, into the method of heating that was to be ultimately proposed. It is during these preliminary discussions that agreement is normally reached between the developer and your officers regarding the type of boiler plant, fuel to be used, the chimney height, construction and positioning, prior to any formal notification under the provisions of legislation. It is significant to report that following last winter's electricity workers' power strike, four of the furnaces that were installed during the year were, in fact, standby generators.

Air Pollution Monitoring

The sets of monitoring equipment set up and run by this Department since 1970, have continued throughout the year to give results pertaining to levels of smoke, sulphur dioxide and trace elements. Once again we have been troubled with pump breakdowns, which have prevented average annual results being tabulated on some of the sites. 18 sets of negative average monthly results out of a theoretical total of 84 have been lost, due to the failure of equipment.

From the results obtained for 1972 and previous years, it is possible to establish that the average levels of smoke and sulphur dioxide are showing a distinct downward trend, as is shown in Fig. (1) which relates to the period between 1959 to 1971. It will be observed that there has

been a more distinct downward trend in smoke levels than sulphur dioxide, and the latter has flattened out in the past three or four years, a characteristic not shared by the smoke trend. These differences in trend are in broad agreement with the trends in other regions of the United Kingdom, the steep downward trend in smoke concentrations reflecting the reduction in the consumption of coal, due to national changes in the use of fuels and partly by the introduction of Smoke Control Orders. Trend diagrams of both winter smoke and sulphur dioxide concentrations in the south-west region, not shown diagrammatically in this report, do show that smoke concentrations have been reduced by about 50% and sulphur dioxide by about 11% over the period 1962 to 1970 during which time there has been a corresponding reduction of about 40% in the consumption of house coal in the south-west region. Bearing in mind that the consumption figures exclude industrial coals, and that ground level concentrations are not solely caused by domestic emission, the agreement is quite good. It is also encouraging to mention that as well as the average pollution decreasing, the relative intensity of high pollution episodes is also decreasing. This is the reduction in the ratio of the highest daily recorded concentrations of both smoke and sulphur dioxide to the average winter concentrations.

Although none of the new monitoring sites which were installed in 1970 provided 1970/1971 winter averages, they did provide sufficient data to obtain a more comprehensive picture of the present pollution pattern in Bristol. All the sites within or near to the industrial complex of Avonmouth had smoke values well below (about 40% on average) the 1968-70 town average. Sulphur dioxide levels were also well below (about 20%) the 1968-70 town average at three of the sites. The site at Pier Head, Avonmouth, was the odd one out with sulphur dioxide levels marginally above the town average due to the influence probably of the Power Station at Portishead.

Summarizing the present position, smoke levels within Bristol are just above the United Kingdom town average in National Survey and fairly uniformly distributed except for a more polluted zone in the north-east. The Avonmouth/Severnside industrial complex has uniformly low smoke levels. The distribution of sulphur dioxide is somewhat different, the highest values being recorded at the City Centre and in the north-east. Emissions of chemical fume associated with premises under the control of the Alkali and Clean Air Inspectorate would appear to be now within the correct legal limits, following the period of infractions of the Alkali Works Order, and plant closures during the early part of 1972. Irrespective of these facts, monitoring of the environment locally will continue and be increased to ensure that adequate information be available to locate areas within the City which are potentially injurious.

ADMINISTRATION OF THE OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

Enforcement of the Offices, Shops and Railway Premises Act, 1963 continues to be the responsibility of the Offices and Shops Section of the Department which is also responsible for implementation of the Shops Acts and Young Persons Employment Act.

Inspectorial staff consisted of a Specialist Inspector, a Public Health Inspector, 3 Shops Inspectors and a Technical Assistant. For part of the year the Public Health Inspector was seconded to other duties.

Consequent to the depletion of the section, the number of premises inspected during the year was less than during the previous year, totalling 1,499 and leaves about 500 to be visited in order to complete the second cycle of the city since the Act was passed. It is planned that when the next round of inspection commences during the ensuing year, particular attention will be paid to those premises where by reason of equipment used or operations carried out there may be a greater risk to staff. Newly occupied premises continued to receive some priority and in this connection it can be here mentioned that plans submitted to the Acting City Planning Officer are, where applicable, scrutinised and attention is drawn to requirements of the Offices, Shops and Railway Premises Act. During the year 1,200 such plans were seen. Comments mostly referred to the need for effective ventilation to enclosed spaces, to sanitary accommodation and the need to ensure that drinking water supplies and rinsing facilities for drinking vessels were sited other than in close association with sanitary conveniences both on aesthetic grounds and as good hygienic practice.

One of the problems found in making comments is that the occupier is generally responsible for complying with the Act and at the planning stage it is not known who this will be. For this reason detailed comments are made to the architects and builders involved in the hope that they will pass these on to the eventual occupiers.

During the early part of the year, the survey started during the previous year of premises where it was felt the prescribed temperature was not being maintained, continued. No prosecutions were found necessary but such visits will continue to be made and legal action to secure compliance taken where required.

Visits were made to check the illumination levels in premises and as in previous years occupiers have corrected deficiencies when made aware of them. It is surprising how staff will tolerate quite low levels of lighting and how grateful they become when the lighting is improved.

Judgment of adequate ventilation of rooms is one of the more difficult tasks of the Inspector. The demands for fresh air in any room varies with the number of persons in that room, the amount of air movement and the relative humidity. As a result of observations during routine visits, a number of occupiers were informed that improved ventilation was desirable and, although in some cases there was initial reluctance to provide opening windows, partly due in some instances to difficulties with insurance companies, in all cases advice given was followed.

Accidents

253 accidents were notified. Of these 85 were investigated, legal proceedings were commenced in 2 instances for breaches of the law revealed during investigations but had not been completed before the end of the year.

There was a small increase in the number of accidents involving transport and at the request of the Department of Employment detailed enquiries were carried out into the circumstances of each accident.

It is a matter for concern to find young persons under 17 years employed to drive fork-lift trucks without any form of training. One feels that such machines are just as hazardous as any of those on the prescribed list issued by the Secretary of State and they should also be subject to some restriction.

One accident involving a fork lift truck occurred in a warehouse and resulted in injuries to the legs of a boy of 15 who was, contrary to instructions, riding on the back of a fork lift truck whilst it was reversing and who was trapped when a collision occurred between it and a lorry which was also reversing. No legal action resulted as no breach of the law had occurred but advice was given regarding safety precautions in use of such vehicles.

Another accident occurred in a warehouse when observation of the proper safety drill would have prevented injury. A warehouseman loading goods on to a dilly truck was injured when a fork lift truck moving down a gangway struck the part of the dilly truck which was protruding and this in turn trapped the warehouseman's foot against the racking. If the gangway had been wider and the driver's field of vision had not been restricted by goods on his truck the accident may have been avoided. This was one of the occasions when reversing would have been a better way of traversing the gangway.

77 reports were received under the Lift and Hoist Regulations 1968 which require notification of unsafe conditions. The attention of occupiers was drawn to the need to carry out work within a specified period. During the year two lifts which had been the subjects of unsatisfactory reports over a period of two years were finally replaced. The order to replace had been given some twelve months previously but the engineer had not found it possible to do the work before.

Section 22 of the Act gives powers to Magistrates to make an Order prohibiting use of premises or machinery or the carrying on of a process if satisfied that there may be a risk of injury. No use has yet been made of this section but its use as means of dealing with situations not specifically covered by the Act is one which is kept in mind. It is now customary to ask for a sight of the engineer's reports on lifting gear, fork lift trucks, boilers and other machinery which could be the subject of such action.

In a number of butchers and meat wholesalers premises advice was given on the resiting of bandsaws so that the operator was not liable to be knocked by persons passing by as he was using the saw. In some instances safety rails were provided.

The attention of a national insurance company was drawn to the need to fully enclose a lift way in premises which they owned. They steadfastly refused to comply with requirements until legal proceedings were commenced but completed the work before the hearing was due and consequently the summons was withdrawn.

During inspection of a large warehouse it was found that the means of heating was by portable gas heater with the gas container situated within the building. As there was some question of risk of fire due to the nature of the goods stored the attention of the Fire Prevention Officer was drawn to the premises concerned.

Prosecution

One prosecution was taken during the year for contravention of the Act against an occupier for

failure to provide a thermometer, suitable washing facilities, accommodation for outdoor clothing, facilities for eating meals, adequate first aid facilities and failure to notify the local authority of the employment of persons. The defendant did not appear in Court and the case was dismissed on the grounds that insufficient evidence had been produced to establish that the defendant was in fact the occupier. A further visit to the premises revealed that they complied with the provisions of the Offices, Shops and Railway Premises Act, 1963.

ROBENS REPORT

During the year the report of the Committee chaired by Lord Robens which was appointed to consider changes needed in legislation protecting health and safety of employed persons was issued.

If its proposals are accepted it will bring about considerable changes in the way in which workers are protected. It is proposed that any new legislation should apply to all employees and self employed persons in circumstances where other persons could be affected by their acts. The amalgamation of various government inspectorates is proposed and a new authority is envisaged to administer the new legislation.

Local authorities would continue with their present duties and would be responsible for non-industrial premises, a term which would need to be closely defined to prevent any demarcation problems. Voluntary standards and codes of practice are seen as a means of promoting better conditions of safety and health at work. Experience within the city suggests that such means of improving conditions may be satisfactory for the larger concerns, who generally have high standards of safety and health, but it is doubtful if those firms with somewhat lower standards will respond. The knowledge that failure to comply with the law's requirements may result in legal action is very often a convincing argument.

The recommendation that the new authority should closely oversee the work of local authorities is likely to be not welcomed by them. The present arrangement whereby a Deputy Superintending Factory Inspector is available for liaison works well and there seems to be no reason why such a system cannot continue even under the new body.

It is interesting to see the committee suggesting the use of enforcement notices and prohibition notices where sanctions are considered necessary. The service of notices is of course a well established method of enforcement in public health work and one that has been adapted for use by many local authorities under the Offices, Shops and Railway Premises Act as a convenient way of drawing attention to contraventions found on premises. One disadvantage in the system is the protracted time normally necessary to bring a case before the Magistrates, very often four to five months ensues from notification to hearing of a case. If immediate action to hear a case could be ensured this system would have a lot to recommend it.

THE ADMINISTRATION OF THE SHOPS ACTS 1950/65 AND KINDRED LEGISLATION

In October, Mr. G. P. Hooper, Senior Shops Inspector retired after 40 years service with the Corporation, 35 years having been spent with the Department. His knowledge and expertise on Shops legislation will be greatly missed. It is regrettable that his retirement was hastened by ill health. The post of Senior Shops Inspector was vacant at the end of the year.

The Offices and Shops Section continued to be responsible for the enforcement of the Shops Acts and kindred legislation. 2,900 shops were visited mostly in association with duties under the Offices' Shops and Railway Premise Act, 1963.

A further year has passed without any of the much needed reform to the part of the Shops Act 1950 concerned with shop assistants hours and conditions of employment. Improvements for staff have resulted from changes in shopping habits and also from better working conditions offered in competing industries.

The Public Health Committee granted exemptions from the general closing hours requirements of the Shops Acts for the Bristol Flower Show held at Durdham Down in September, the Ideal Homes Exhibition, and the Bristol Leisure Life, D.I.Y. and Handicraft Exhibition held at the Victoria Rooms, Clifton.

There was an increase in applications for exemption from the early closing provisions of the Act. Eight were granted and these affected most trades in the Whiteladies Road area, footwear dealers in the Clifton area, dealers in furniture, camping equipment, car radios and home stereo equipment in Victoria Street, City, radio and television dealers in part of Knowle. Shops dealing in tools and hardware in Broad Quay, Hairdressers, Ironmongers and Hardware dealers in Fishponds.

A large percentage of the traders in the city now have the benefit of an early closing day exemption.

An application was received from a large store, not in the main shopping area of the city for a change in the late day, which for most trades is at present Saturday. In order to be more in keeping with the shopping habits of its customer it wished to have Friday as the late day. This was an isolated application and the Public Health Committee did not agree to vary the existing arrangements.

A High Court decision during the year had the effect of bringing clearly within the scope of the Shops Acts, stalls at the three local Sunday markets and they became subject to the same restrictions as other retail shops. One Sunday market was closed by the organisers and its activities transferred to Saturdays.

Regular visits were made by inspectors to the other markets and a report of contraventions found was in preparation at the close of the year for submission to the Public Health Committee.

Legal proceedings were started against a furniture shop which was opening on Sundays, goods were displayed, prices marked and shop assistants employed to give advice; although on the dates subject to legal action no sales took place it was clear that breaches of the law were taking place. The case had not been heard before the end of the year.

On two occasions talks on "The work of the Shops Inspectors" were given to overseas labour officers and Trade Union Officials.

The annual conference of the Institute of Shops Acts Administration was held at Weymouth and the department was represented by Mr. D. I. Hole, Area Public Health Inspector. The Specialist Inspector in the Offices and Shops Section, Mr. E. A. Bold, also attended the conference.

PEST CONTROL AND DISINFECTION

The re-organisation of the section mentioned in last year's report continued and the modernisation of the office block at the Disinfecting Station was carried out during the early part of this year. This now provides a single all-purpose office, two security storerooms and a messroom for the use of all manual staff and at the same time additional vehicle parking spaces were provided. The standard of service was improved by the provision of the Department's own boat which is being used in rodent control work on the many miles of the City's waterways, both above and below ground. Gradually the spraying and other equipment is being replaced by up-to-date apparatus and it is planned that this programme of modernisation and re-organisation will be completed early in 1973.

Many complaints of both rats and mice were made by both owners and occupiers alike in complying with the provisions of the Prevention of Damage by Pests Act, 1945. As can be seen from Table 23, these have continued at a relatively high level mainly, it is thought, as a result of national publicity on the dangers of rats and mice but it should be emphasised that an increase in notifications does not necessarily indicate an increase in infestations. The Health Committee's policy of providing treatment for mice in dwelling houses free of charge has continued throughout the year. In addition to the work carried out under the Prevention of Damage by Pests Act 1949, the normal routine work of rodent control has been carried out and numerous visits made to premises and sites where conditions were attractive to, or would provide harbourage for, rodents.

A special infestation survey of the main central shopping and commercial area of the City was commenced in 1971 and this was completed during the first quarter of the year. The survey revealed infestations of mice in a substantial number of premises and resulted in the carrying out of block treatment in conjunction with the private servicing companies thus bringing under control what might otherwise have been a serious situation.

Sewers and Underground Waterways

The continuous treatment for rats in the City's sewers was maintained and during this year a complete 'blanket' type treatment was commenced. This involves treatment at every possible access point on the sewerage system from one side of the City to the other. It is anticipated that this part of the sewer treatment programme will take approximately twenty months to complete.

As has already been mentioned, increased attention has been given to the many miles of waterway within the City. The extent of this part of the work is demonstrated by the fact that over one ton of acute poisonous bait has been used under the central shopping area during 1972.

TABLE 1

ENVIRONMENTAL HEALTH INSPECTORS (ALL LEGISLATION)

Complaints and enquiries received: 10,991

Visits:—

	<i>Visits</i>	<i>Re-visits</i>	<i>Total</i>
Dwelling houses (Public Health)	7,667	14,486	22,153
Dwelling houses (Housing)	4,809	5,169	9,978
Multiple occupation	574	1,499	2,073
Common lodging houses	5	4	9
Factories—power	283	259	542
Factories—non-power	31	25	56
Outworkers	31	62	93
National Assistance Act 1948	4	13	17
Nurseries/homes, etc.	61	37	98
Entertainment places	77	118	195
Moveable dwellings	100	639	739
Sites	451	1,592	2,043
Building sites	50	142	192
Injurious weeds	8	5	13
Offensive trades	103	4	107
Keeping of animals	42	134	176
Piggeries	55	60	115
Poultry	15	1	16
Pet shops	167	3	170
Noise	614	1,632	2,246
Smoke observations	339	3,538	3,877
Smoke Control Area visits	13,397	1,733	15,130
Chimney height visits	208	284	492
Inspection of boiler plant and furnaces	—	5	5
Dust and effluvia	314	1,779	2,093
Health education	494	168	662
Court attendance	84	23	107
Flooding	16	55	71
All other matters	5,542	4,791	10,333
Food premises—registrable	500	601	1,101
Food premises—non-registrable	2,227	2,749	4,976
Food vehicles/stalls	505	915	1,420
Butchers' shops	574	111	685
Meat markets	292	1	293
School kitchens	323	75	398
Cold stores	51	3	54
Food inspection	1,848	651	2,499
Visits re Containers	3	5	8
Dairies	40	2	42
Ice cream manufacturers	19	3	22
Pharmacy and poisons	317	35	352
Rag flock	22	1	23
Sampling	2,820	363	3,183
Infectious diseases	13	2	15
*Food poisoning	158	61	219
Food complaints	958	913	1,871
Offices	486	—	486
Retail shops	692	—	692
Wholesale shops and warehouses	220	—	220
Catering establishments and canteens	101	—	101
**Other visits L.A.Cic. 5. para. 7	4,803	2	4,805
Sunday Entertainment Act	9	1	10
Young Persons (Employment) Acts	7	—	7
Shops Acts (retail)	2,568	25	2,593

TABLE 1 (continued)

ENVIRONMENTAL HEALTH INSPECTORS (ALL LEGISLATION) (continued)

					<i>Visits</i>	<i>Re-visits</i>	<i>Total</i>
Shops Acts (wholesale) ... ..	...	...	...	...	226	—	226
*Dysentery ... ..	...	...	...	...	1	1	2
**Fuel storage depots ... ..	...	...	...	...	7	—	7
Totals ...					55,331	44,780	100,111

TABLE 2

SUMMARY OF NOTICES SERVED

(Excluding Housing Legislation)

					<i>Informal Served</i>	<i>Complied with</i>	<i>Statutory Served</i>	<i>Complied with</i>
Dwelling houses (Public Health) ... ..	...	...	...	...	396	153	135	87
Multiple occupation ... ..	...	...	...	...	12	3	4	1
Factories—power ... ..	...	...	...	...	14	4	—	—
Sites ... ..	...	...	...	...	2	—	—	—
Building Sites ... ..	...	...	...	...	—	—	—	—
Keeping of animals ... ..	...	...	...	...	—	—	—	—
Noise ... ..	...	...	...	...	3	2	1	1
Smoke observations ... ..	...	...	...	...	3	—	—	—
Dust and effluvia ... ..	...	...	...	...	—	—	—	—
All other matters ... ..	...	...	...	...	5	2	3	2
Food premises—registrable ... ..	...	...	...	...	24	14	—	—
Food premises—non-registrable ... ..	...	...	...	...	244	234	1	—
Food vehicles/stalls ... ..	...	...	...	...	20	10	—	—
Butchers' shops ... ..	...	...	...	...	26	22	—	—
Offices ... ..	...	...	...	...	187	123	—	—
Retail shops ... ..	...	...	...	...	323	259	—	—
Wholesale shops and warehouses ... ..	...	...	...	...	77	51	—	—
Catering establishments and canteens ... ..	...	...	...	...	58	31	—	—
Sunday Entertainment Act ... ..	...	...	...	...	—	—	—	—
Shops Acts (retail) ... ..	...	...	...	...	11	1	—	—
Shops Acts (wholesale) ... ..	...	...	...	...	1	—	—	—
Smoke Control Areas ... ..	...	...	...	...	—	—	30	132
Cold Store ... ..	...	...	...	...	1	—	—	—
Totals ...					1,407	909	174	223

TABLE 3

SUMMARY OF REMEDIAL ACTION

(Excluding Housing Legislation)

<i>Public Health</i>						
New drains laid ... ..	...	...	...	...	...	8
Drains repaired ... ..	...	...	...	...	...	59
Choked drains cleared ... ..	...	...	...	...	...	1,838
Tests made ... ..	...	...	...	...	...	133

TABLE 3 (continued)

Repairs/Improvements to sanitary accommodation ...	47
Additional sanitary accommodation provided ...	17
Intervening vent, space provided ...	3
Cesspools abolished ...	1
New and additional water supplies ...	1
Hot water installed ...	2
New/additional sinks provided ...	3
Wash basins provided ...	5
Roofs repaired ...	135
Dampness remedied ...	158
Other new and repair works ...	206
Yards paved and drained ...	7
Other nuisances abated ...	342
Houses cleared/fumigated ...	93
Food store installed ...	6
Cooking facilities provided ...	2
Lighting improved ...	11
Ventilation improved ...	11
Heating provided ...	1
Overcrowding abated ...	—
Exhumations ...	4
Keeping of animals—improvements ...	2
<i>Aged and Infirm Persons</i>	
Removals—voluntary ...	1
Removals—court order ...	10
Removals—Extension Orders ...	2
Smoke infringements dealt with ...	36
Noise nuisance dealt with ...	71
All other matters ...	525
<i>Food Hygiene</i>	
Premises altered/repared ...	69
Premises decorated/cleansed ...	175
Hot water provided ...	34
Sinks provided ...	18
Wash hand basins provided ...	31
Sanitary accommodation provided ...	3
Sanitary accommodation improved ...	34
Personal requirements dealt with ...	57
Equipment improved/replaced ...	74
Contamination risk reduced ...	97
First aid provisions ...	34
Lighting improved ...	5
Refuse storage improved ...	43
Stalls/vehicles improved ...	7
Food transport improved ...	7
Ventilation improved ...	7
All other matters ...	193
<i>Offices and Shops</i>	
Premises cleaned/redecorated ...	65
Heating provided/improved ...	9
Ventilation improved ...	55
Lighting improved ...	25
Sanitary accommodation improved ...	85
Sanitary accommodation provided ...	10
Washing facilities improved ...	47
Washing facilities provided ...	37
Seats provided ...	15

TABLE 3 (continued)

Eating facilities provided/improved	...	...	...	13
Floors, passages, stairs repaired	...	...	...	86
Machinery fenced	...	...	...	56
Other safety measures provided	...	...	...	105
First aid provisions	...	...	...	259
All other matters	...	...	...	540

TABLE 4

PROSECUTIONS AND COURT APPEARANCES

Under the Public Health Act, 1936

Sections 93, 94 and 95	Nuisance arising from various structural defects.	28 day Nuisance Order.
Sections 93, 94 and 95	Nuisance arising from various structural defects.	28 day Nuisance Order.
Section 94	Nuisance arising from various structural defects.	21 day Nuisance Order.
Section 94	Nuisance arising from various structural defects.	28 day Nuisance Order.
Section 94	Nuisance arising from various structural defects.	10 day Nuisance Order.
Section 94	Nuisance arising from various structural defects.	28 day Nuisance Order.
Section 94	Nuisance arising from various structural defects.	28 day Nuisance Order.
Section 94	Nuisance arising from various structural defects.	28 day Nuisance Order.
Section 94	Nuisance arising from various structural defects.	4 months Nuisance Order.
Section 94	Nuisance arising from various structural defects.	28 day Nuisance Order.
Section 94	Nuisance arising from various structural defects.	28 day Nuisance Order.
Section 94	Nuisance arising from various structural defects.	2 months Nuisance Order.
Section 95	Failure to comply with a Nuisance Order.	Fined £10.

Under the Public Health Act, 1936 and the Public Health (Recurring Nuisances) Act, 1969

Section 2	Default in compliance of prohibition order to abate noise nuisance.	Recurring Nuisance Order made £5 costs.
-----------	---	---

Under the Housing Act, 1957

Section 27(1)	Use of premises in contravention of Closing Order.	Each defendant given 2 year conditional discharge.
---------------	--	--

Under the Food and Drugs Act, 1955

Sections 2 and 106	Rodent excreta in large loaf.	Fined £10.
Sections 2 and 106	Rodent droppings in semolina.	Fined £50 plus £15 costs.
Sections 2 and 106	Foreign matter in Porridge Oats.	Fined £50.
Sections 2 and 106	Foreign body in sausage roll.	Fined £20.
Sections 2 and 106	Foreign body in loaf of bread.	Fined £40.
Sections 2 and 106	Foreign body in a scone.	Fined £25 and £5 costs.
Sections 2 and 106	Mould growth on sausages.	Each defendant fined £25 and £5 costs. Total £60.

TABLE 4 (continued)

Sections 2 and 106	Piece of metal in can of baby food.	Defendants claimed warranty. Company fined £50.
Sections 2 and 106	Foreign body in loaf.	Fined £25 plus £5 costs.
Sections 2 and 106	Foreign bodies in fruit and nut bars.	Fined £50 plus £5 costs.
Sections 2 and 106	Rodent excreta in loaf.	Fined £40 plus £10 costs.
Sections 2 and 106	Mould on pasty.	Fined £15 plus £5 costs.
Sections 2 and 106	Loaf not of quality demanded.	Fined £20 plus £3 costs.
Sections 2 and 106	Mould on apple pie.	Fined £25 plus £10 costs.
Sections 2 and 106	Mouldy steak and kidney pie.	Fined £20 plus £5 costs.
Sections 2 and 106	Insect in tart.	Fined £25 plus £5 costs.
Sections 2 and 106	Mouldy steak and kidney pie.	Fined £50.

Under the Food Hygiene (General) Regulations, 1970

Regs. 7; 9; 11; 18(2)(3)(4); 25 and 30	18 offences.	Fined £330.
Regs. 7(1); 25; 29 and 30	13 offences.	Fined £650.
Regs. 10(e) and 29	1 offence.	Fined £40.
Regs. 10(e) and 19	1 offence.	Fined £15.
Regs. 10(e) and 29	2 offences.	Fined £65.
Regs. 7(1); 9(d); 16(5); 18(1)(2)(3); 20(1); 25 and 30	25 offences.	Fined £320 plus £10 costs.
Regs. 7(1); 25 and 26(2)	8 offences.	Fined £600 plus £15 costs.
Regs. 7(1); 7(1)(a); 16(5); 18(3); 18(4); 20(1); 25; 25(a); 26(2); 29 and 30	73 offences.	Fined £730 plus £30 costs.
Regs. 7(1); 7(1)(a); 9(a); 16(5); 18(3); 18(4); 20(1); 21(3) and 25	36 offences.	Fined £180 plus £5 costs.
Regs. 7(1); 21(3); 25 and 26(1)	6 offences.	Fined £90 plus £5 costs.

Under the Food Hygiene (Markets, Stalls and Delivery Vehicles) Regulations 1966 as amended

Regs. 6(1); 7(a); and 25	3 offences.	Fined £45.
Reg. 5	2 offences.	Fined £20 plus £5 costs.
Regs. 16(1) and 17	2 offences.	Fined £15 plus £3 costs. 1 year conditional discharge on other charge.
Regs. 5(1); 16(2) and 17	4 offences.	Each defendant fined £40. Total £80.
Regs. 5(1) and 16(2)	2 offences.	Each defendant fined £20. Total £40.

TABLE 4 (contd.)

Regs. 5(1); 16(3); 5 offences. 17 and 13(a)	Each defendant fined £50. Total £100.
Regs. 13(1); 16(2); 4 offences. 17; 5(1) and 9	Fined £20.
Regs. 13(1)(b) and 2 offences. 16(2)	Fined £10.
Regs. 5(1); 6(1); 8 offences. 13(1); 16(2); 17 and 20	Fined £40.
Regs. 13(1); 16(2) 3 offences. and 17	Fined £15.
Regs. 5(1), 13(1), 4 offences. 16(2) and 17	Fined £20.
Regs. 15(2), 17, 5 offences. 5(1), 9 and 6(1)	Fined £100 plus £3 costs.
Regs. 6(1); 16(2); 5 offences. 16(3) and 18(b)	Fined £100 plus £3 costs.
Regs. 16(2) and 2 offences. 16(3)	Fined £40 plus £3 costs.
Regs. 5(1); 9, 5 offences. 13(1); 16(2); 16(3) and 17	Fined £100 plus £3 costs.

Under the Milk and Dairies (General) Regulations, 1959

Regs. 27(1) and 34	Dirty milk bottle.	Fined £20 plus £5 costs.
Reg. 27(1)	Mould growth in bottle of milk.	Fined £20.
Reg. 27(1)	Unclean vessel used to contain milk.	Fined £50.
Reg. 27(1)	Unclean vessel used to contain milk.	Fined £50 plus £5 costs.
Reg. 27(1)	Dirty milk bottle.	Fined £75 plus £5 costs.

Under the Clean Air Act, 1968

Section 1	Emission of dark smoke.	Case dismissed.
Section 1	Emission of dark smoke.	Case dismissed.
Section 1	Emission of dark smoke.	Fined £25.
Section 1	Emission of dark smoke.	Fined £5.

Under the Caravan Sites and Control of Development Act, 1960

Section 1	Operating caravan site without a licence.	Case dismissed.
-----------	---	-----------------

Under the Pet Animals Act, 1951

Sections 1(7); 4; 5 and 6	Open food containers. Dirty conditions.	Fined £40 plus £10 costs.
---------------------------	---	---------------------------

Under the Offices, Shops and Railway Premises Act, 1963

Sections 6(4), 9(2); 10(2); 12(ia); 15; 24(2); First Aid Order 1964	No thermometer; sanitary accommodation not cleaned; suitable washing facilities not provided; suitable and sufficient accommodation for clothing not provided; no provision for eating of meals; no first aid box or cupboard contents.	Case dismissed.
Sections 49(i) 63 and 64		

TABLE 5

FACTORIES ACT, 1961

Prescribed Particulars on the Administration of the Factories Act, 1961

PART I OF THE ACT

1. Inspections for purposes of provisions as to health (including inspections made by Public Health Inspectors)

Premises (1)	Number on Register (2)	Number of		
		Inspections (3)	Written Notices (4)	Occupiers Prosecuted (5)
(i) Factories in which Sections 1, 2, 3, 4 and 6 are to be enforced by Local Authorities	44	56	—	—
(ii) Factories not included in (1) in which Section 7 is enforced by the Local Authority	1,473	568	14	—
(iii) Other Premises in which Section 7 is enforced by the Local Authority (excluding out-workers' premises) ...	207	195	—	—
Total ...	1,724	819	14	—

2. Cases in which defects were found.

Particulars (1)	Number of cases in which defects were found				No. of cases in which prosecutions were instituted (6)
	Found (2)	Remedied (3)	Referred to H.M. Inspector (4)	by H.M. Inspector (5)	
Want of cleanliness (S. 1) ...	1	1	—	—	—
Overcrowding (S. 2) ...	—	—	—	—	—
Unreasonable temperature (S. 3) ...	—	—	—	—	—
Inadequate ventilation (S. 4) ...	1	—	—	—	—
Ineffective drainage of floors (S. 6) ...	—	—	—	—	—
Sanitary conveniences (S. 7):					
(a) Insufficient ...	3	4	—	—	—
(b) Unsuitable or defective ...	13	9	—	—	—
(c) Not separate for sexes ...	—	—	—	—	—
Other offences against the Act (not including offences relating to Outwork)	2	2	—	—	—
Total ...	20	16	—	—	—

TABLE 6

FACTORIES ACT, 1961—PART VIII OF THE ACT—OUTWORK
(Sections 133 and 134)

Nature of work (1)	Section 133			Section 134		
	No. of outworkers in August list required by Section 133 (1) (c) (2)	No. of cases of default in sending lists to the Council (3)	No. of prosecutions for failure to supply lists (4)	No. of instances of work in unwholesome premises (5)	Notices served (6)	Prosecutions (7)
Wearing Apparel } Making, etc. Cleaning and Washing	78	—	—	—	—	—
Furniture and Upholstery	2	—	—	—	—	—
Stuffed toys	1	—	—	—	—	—
Textile	1	—	—	—	—	—
Weaving	1	—	—	—	—	—
Total	83	—	—	—	—	—

In addition to the above, outworkers are also involved in the following occupations:

Occupation	No. of o/w's	Occupation	No. of o/w's
Making Dolls	2	Crocheting	6
Painting Dolls	2	Embroidery	1
Christmas Card preparation	1	Fabric/Machinery	2
and packet labelling	3	Rug Making	2
Handicrafts	1	Sorting stamps	1
Rosettes	4	Decorating pots	1
Leatherwork	8	Total	34
Dolls Clothing	...		—

TABLE 7

HOUSING PROGRESS CHART

		<i>From May 1955- 1960</i>	<i>1961- 1965</i>	<i>1966- 1970</i>	<i>1971</i>	<i>1972</i>
Houses in Clearance Areas and already covered by operative Clearance Ord- ers or Compulsory Pur- chase Orders	Pre-war 138 Post-war up } 211 to 5.5.55 73	113 72	19 —	1 —	— —	— —
Houses in Clearance Areas for which Clearance Ord- ers or Compulsory Pur- chase Orders have been submitted to the Minis- ter but have not yet become operative ...	Post-war up } 56 to 5.5.55 }	56	—	—	—	—
Number of houses subject to operative Demolition Orders	Pre-war up } 258 to 5.5.55 }	201	27	23	55	5
Totals		442	46	24	55	5
Houses represented—Clearance Areas ...		3,592	746	127	—	—
Reported to Committee		—	425	35	4	24
Demolition Orders made on individual houses ...		157	27	38	5	5
Certificates of Unfitness—houses owned by Cor- poration		510	196	112	115	132
Undertakings given by owners to demolish ...		114	74	22	1	5
Unfit houses voluntarily demolished by Corpor- ation and others		229	256	463	105	208
Grand Totals		5,044	1,770	821	235	379

TABLE 8

ACTION UNDER HOUSING LEGISLATION

Houses inspected

Section 9	...	...	...	...	...	...	...	...	...	...	...	—
Section 16	...	...	...	...	...	...	...	...	...	...	...	84
Section 18	...	...	...	...	...	...	...	...	...	...	...	86
Clearance Areas	...	...	...	...	...	...	...	...	...	...	...	—
For Report to Committee	...	...	...	...	...	...	...	...	...	...	...	—
Multiple occupation	...	...	...	...	...	...	...	...	...	...	...	—
<hr/>												
Totals												170

TABLE 8 (continued)

Represented to Committee

Section 9—(1)	—
Section 9—(1) (a)	18
Section 16	81
Section 18	120
Clearance Areas	—
Reported to Committee as unfit	—
Reported to Committee—in multiple occupation	—

Orders made

Demolition Orders—(Section 17, Housing Act, 1957)	5
Closing Orders—Whole House (Section 17, Housing Act, 1957)	77
Closing Orders—Whole House (Section 17 ss.3. Housing Act, 1957)	—
Closing Orders—Underground Rooms and parts of buildings (Section 18, Housing Act, 1957)	94
Management Orders (Section 12, Housing Act, 1961)	—
Direction Orders (Section 19, Housing Act, 1961)	—
Undertakings not to use—(Section 16, Housing Act, 1957)	4
Undertakings to demolish—Housing Act, 1957	5
Demolition Order substituted for a Closing Order (Section 28, Housing Act, 1957)	—

Houses repaired

Section 9(1)—informal	—
Section 9(1)—formal	—
Section 9(1)—formal by Corporation in default	—
Section 9(1)(a)—informal	1
Section 9(1)(a)—formal	7
Section 9(1)(a)—formal by Corporation in default	—
Undertakings to repair	3
Undertakings not to use, cancelled after repair	2
Other repairs	9
Closing Orders determined after repair—whole building	47
part building	33
Demolition Orders revoked	—

TABLE 9

FOOD HYGIENE (GENERAL) REGULATIONS, 1970

(Summary of food premises subject to the Regulations grouped in categories of trade carried on in them)

<i>Trade</i>	<i>Number of Premises</i>
Restaurants and Cafes	411
Public Houses	430
Hotels—Boarding Houses	85
Clubs—places of entertainment	117
Fried Fish shops	131
Wet Fish shops	40
Grocers	628
Greengrocers	224
Supermarkets	119
Factory canteens	146
Wholesale food premises	71
Chemists	120
School Canteens	145

TABLE 9 (continued)

Flour and Sugar confectionery	566
Bakers	49
Butchers	260
Dairies (processing)	3
Ice-Cream manufacturers	12
Meat Products manufacturers	9
Other manufacturers (shell fish, etc.)	14
Off Licences	114
Further Education Canteens	19
Shops Canteens	29
Office Canteens	27
Kitchens	92
Stores and preparation Depots	54

TABLE 10
SUMMARY OF TOTAL FOOD CONDEMNED

	<i>Tons</i>	<i>Cwts.</i>	<i>Qrs.</i>	<i>Lbs.</i>	<i>Cans</i>
Meat and offal	96	15	0	26	—
Meat (canned)	7	6	2	5	3,827
Fish	23	0	1	24	—
Fish (canned)	—	8	0	4	1,087
Poultry	1	2	3	10	—
Fruit and vegetables	54	1	0	18	—
Fruit and vegetables (canned)	35	1	0	16	43,929
Fruit (dried)	—	2	2	18	—
Other foods	13	7	3	27	—
Other foods (canned)	8	15	3	4	4,377
Totals	240	2	1	12	53,220

TABLE 11
TOTAL ANIMALS SLAUGHTERED

	<i>1970</i>	<i>1971</i>	<i>1972</i>	<i>Percentage difference</i>
Cattle	15,733	14,432	12,101	— 16·15
Calves	555	325	79	— 75·69
Sheep	32,696	29,067	28,613	— 1·53
Pigs	20,123	22,852	15,645	— 31·53
Pigs (Bacon Factory)	20,532	26,926	25,126	— 6·67
Goats	10	22	25	+ 13·06
Totals	89,649	93,624	81,589	— 11·87

TABLE 12
SAMPLES OF MEAT AND OFFAL FROM PET SHOPS SUBMITTED FOR SALMONELLA CONTENT

				<i>Number</i>			<i>Salmonellae</i>			<i>Percentage Positive</i>		
<i>Horse flesh</i>				<i>Raw</i>	<i>Cooked</i>	<i>Total</i>	<i>Raw</i>	<i>Cooked</i>	<i>Total</i>	<i>Raw</i>	<i>Cooked</i>	<i>Total</i>
Meat ... ..	...	...	...	73	—	73	14	—	14	—	—	19·17
Liver ... ..	...	...	...	60	—	60	6	—	6	—	—	10
Heart ... ..	...	...	...	8	—	8	—	—	—	—	—	—
Totals				141	—	141	20	—	20	—	—	14·18

TABLE 12 (continued)

				<i>Number</i>			<i>Salmonellae</i>			<i>Percentage Positive</i>		
				<i>Raw</i>	<i>Cooked</i>	<i>Total</i>	<i>Raw</i>	<i>Cooked</i>	<i>Total</i>	<i>Raw</i>	<i>Cooked</i>	<i>Total</i>
<i>Knacker Meat</i>												
Meat	...	...	...	48	65	113	5	2	7	10.42	3.077	12.39
Liver	...	...	...	15	11	26	1	1	2	6.65	9.090	7.691
Heart	...	...	...	3	7	10	1	1	2	—	—	—
Kidney	...	...	...	12	3	15	1	—	1	—	—	—
Tongue	...	...	...	17	3	20	—	—	—	—	—	—
Totals				95	89	184	8	4	12	8.42	4.49	6.52
				<i>Number</i>			<i>Salmonella</i>			<i>Percentage</i>		
Pig Mesenteric Glands ...				258			10			3.87		
Pig Liver ...				258			13			5.04		
Totals				516			23			4.46		
				<i>Number</i>			<i>Salmonella</i>			<i>Percentage</i>		
Sewer Swabs ...				96			25			26.03		
Bedding from Cattle Lairs				45			—			—		
<i>Miscellaneous Samples</i>												
<i>Number</i>				<i>Article</i>					<i>Result</i>			
27				Meat Roll					4 } 3 Dublin 			

TABLE 13

SAMPLES OF MEAT AND OFFAL FROM BUTCHERS' SHOPS/MEAT DEPOTS

<i>Origin</i>	<i>Butchers' Shops and Meat Depots</i>				<i>Salmonellae</i>	<i>Percentage Positive</i>
Beef—English	31	—	—
Bovine Liver—Irish	3	—	—
Minced Beef	36	—	—
Pork—English	31	—	—
Totals				101	—	—
Sewer swabs from slaughterhouse—						
number submitted	96	25	26.03
Samples of bedding from cattle lairs—						
number submitted	45	—	—

TABLE 14

PIG AND POULTRY KEEPERS

<i>Number</i>		<i>Use</i>	<i>Licensed to boil swill</i>		<i>Visits</i>	
<i>1971</i>	<i>1972</i>		<i>1971</i>	<i>1972</i>	<i>1971</i>	<i>1972</i>
19	9	Keeping pigs only	12	9	—	—
12	17	Keeping pigs and poultry	9	17	151	131
11	1	Keeping poultry only	1	—	—	—
42	27	Totals	22	26	151	131

TABLE 15

**SAMPLING OF KNACKER MEAT AND OFFAL FROM PET SHOPS
FOR SIX YEARS 1967—1972**

<i>Year</i>	<i>No. of Samples</i>			<i>Positive Salmonellae</i>			<i>Percentage Positive</i>		
	<i>Raw</i>	<i>Cooked</i>	<i>Total</i>	<i>Raw</i>	<i>Cooked</i>	<i>Total</i>	<i>Raw</i>	<i>Cooked</i>	<i>Total</i>
1967	93	—	93	45	—	45	48·30	—	48·30
1968	204	—	204	34	—	34	16·66	—	16·66
1969	116	—	116	14	—	14	12·06	—	12·06
1970	84	84	168	21	5	26	25·00	5·94	15·47
1971	143	103	246	4	1	5	2·80	0·97	2·03
1972	236	89	325	28	4	32	11·87	4·48	9·97
Totals	876	276	1,152	146	10	156	17·0	3·6	10·9

TABLE 16

PUBLIC ABATTOIR AND BACON FACTORY

CARCASSES AND PART-CARCASSES—MEAT AND OFFAL CONDEMNED

A.—CARCASSES AND PART CARCASSES

Disease or condition	Cows		Steers and Heifers		Calves		Pigs		Sheep	
	Carcasses	Part Carcasses	Carcasses	Part Carcasses	Carcasses	Part Carcasses	Carcasses	Part Carcasses	Carcasses	Part Carcasses
Abscess ...	1	1	—	3	—	6	116	2	8	—
Anaemia ...	1	—	—	—	—	—	—	—	—	—
Arthritis ...	—	—	—	—	—	2	15	8	1	—
Bruising/Fractures ...	—	5	—	2	—	—	52	1	2	—
Emaciation/oedema ...	—	—	1	—	—	—	—	25	—	—
Fevered ...	—	—	—	—	—	2	—	—	—	—
Jaundice ...	—	—	—	—	—	5	—	—	—	—
Lymphadenitis Caseous ...	—	—	—	—	—	—	—	1	—	—
Malignant Neoplasms ...	—	—	—	—	—	—	—	2	—	—
Metritis (acute septic) ...	1	—	—	—	—	—	—	—	—	—
Oedema ...	2	—	—	—	—	—	—	—	—	—
Pericarditis (acute septic) ...	2	—	—	—	—	—	—	—	—	—
Peritonitis (acute septic) ...	—	—	—	—	—	1	—	6	—	—
Pleurisy/Peritonitis ...	—	—	—	—	—	10	—	11	—	—
Pleurisy (acute septic) ...	—	—	—	—	—	1	—	42	—	—
Pleurisy ...	—	—	—	—	—	—	—	—	—	—
Pneumonia (acute septic) ...	—	—	—	—	—	1	—	—	—	—
Pyæmia ...	—	—	1	—	—	5	—	—	—	—
Pyelonephritis ...	1	—	—	—	—	—	—	—	—	—
Septicaemia ...	2	—	3	—	—	42	—	17	—	—
Swine Erysipelas ...	—	—	—	—	—	2	—	—	—	—

TOTALS

Cysticercosis ...	—	—	7	—	—	—	—	—	—
-------------------	---	---	---	---	---	---	---	---	---

B.—MEAT AND OFFAL

	1970			1971			1972		
	Tons	Cwts.	Qrs.	Tons	Cwts.	Qrs.	Tons	Cwts.	Qrs.
Public Abattoir—Carcass Meat	...	7	10	2	1	3	14	7	11
Offal	...	84	16	1	8	2	19	10	1
Bacon Factory—Carcass Meat	...	...	8	2	17	0	15	2	19
Offal	...	14	3	2	26	3	25	21	6
Total ...	111	19	0	26	110	3	17	80	7
									1
									6

TABLE 17

SAMPLES SUBMITTED TO THE PUBLIC ANALYST

	<i>F</i>	<i>I</i>	<i>Samples</i>	<i>Unsatisfactory</i>
Milk	15	353	368	5
Ice-Cream ...	—	86	86	1
Other Foods ..	8	838	846	8
Medicines and Drugs	—	21	21	1
Rag Flock ...	—	24	24	—
Fertilisers and feeding stuffs ..	—	242	242	31
Water—swimming baths	—	183	183	3
—others	—	17	17	—
Miscellaneous	—	227	227	84
Totals ...	23	1,991	2,014	133

TABLE 18

SAMPLES SUBMITTED TO THE BACTERIOLOGICAL LABORATORY

	<i>Samples</i>	<i>Unsatisfactory</i>
Milk—T.B. examination and brucella abortus ...	19	—
Pasteurised ..	348	18
Sterilised ...	25	—
Untreated ...	19	5
Ultra heat treated ...	7	—
Schools ...	—	—
Plant tests ...	33	1
Churn and bottle tests	236	30
Shellfish ...	50	13
Water ...	398	6
Ice-Cream ...	195	73
Miscellaneous	103	9
Totals ...	1,433	155

TABLE 19

**SUMMARY OF BIOLOGICAL EXAMINATIONS OF MILK
FOR BRUCELLOSIS AND TUBERCULOSIS**

<i>Year</i>	<i>No. of samples found to be infected with Brucellosis</i>	<i>Tuberculosis</i>
1967	Nil	Nil
1968	2 from 2 producers	Nil
1969	2 from 2 producers	Nil
1970	7 from 1 producer	Nil
1971	Nil	Nil
1972	Nil	Nil

TABLE 20

REGISTRATIONS

Under Section 16, Food and Drugs Act, 1955

The manufacture of Ice-Cream	8
The storage and sale of Ice-Cream	1,152
The preparation or manufacture of sausages or potted, processed, pickled or preserved foods	465

Under the Milk and Dairies Regulations 1959

Dairies	52
Distributors	602

Under the Rag Flock and other Filling Materials Act, 1951

Registered to use filling materials	15
Licensed to store Rag Flock	3

Under the Pharmacy and Poisons Act, 1933

Listed sellers of Part II poisons	192
--	-----

TABLE 21

QUINQUENNIAL LICENCES UNDER THE MILK

(SPECIAL DESIGNATION) REGULATIONS, 1963

	<i>as at 1971</i>	<i>as at 1972</i>
To process pasteurised milk	5	5
To sell pasteurised milk	439	490
To process sterilised milk	1	1
To sell sterilised milk	387	423
To sell untreated milk	2	2
To sell ultra heat treated milk	104	119

TABLE 22
FOOD COMPLAINTS INVESTIGATED

Commodity	FOREIGN BODIES											GRAND TOTALS			
	Glass	Metal	Insects	Personal Items	Building Materials	Transit/Packing Materials	Others	Not true Foreign Bodies	TOTAL FOREIGN BODIES	Mould, etc.	Dirt, etc.				
General foods	8	7	11	—	1	4	20	2	53	16	2	—	13	43	127
General canned foods	1	4	4	1	—	—	7	1	18	7	1	—	12	9	47
Drinks (inc. ice-cream)	—	—	9	—	—	—	2	—	11	—	—	—	6	12	29
Milk	2	—	2	—	—	—	5	1	10	—	17	—	1	4	32
Bread	1	4	4	—	—	—	28	2	39	6	1	—	3	6	55
Confectionery (excl. meat products)	—	1	2	1	—	—	9	—	13	10	—	—	—	7	30
Meat and meat products	1	2	5	—	—	1	10	—	19	21	—	—	5	29	74
Canned meats	—	4	2	—	—	—	5	—	11	4	—	—	8	4	27
TOTALS	13	22	39	2	1	5	86	6	174	64	21	—	48	114	421

NOTES WITH REGARD TO TABLE 22

The table comprises (a) complaints received direct from the public

(b) complaints received from other authorities

(c) defects, irregularities etc. noted as a result of routine sampling by the Inspectorate.

"Personal Items"

Included under this heading are items of a personal nature which can be deemed to have entered the foodstuff as a result of inadequate personal hygiene and comprise: cigarette ends, rubber gloves, hair, cigarette ash, coins.

"Building Materials"

Foreign bodies entered under this heading include stone, screws, nails, wood and wire. These complaints are attributable to building or repair work being carried out at the place of manufacture or to misuse of such items as bottles followed by inadequate cleansing or rejection.

"Transit and Packing Materials"

Such items as string, brown paper, elastic bands, drawing pins, all being connected with either the transit and packing of the finished product or of some ingredient thereof.

"Not True Foreign Bodies"

This heading includes items which are of the nature of the product but are not of the quality or substance normally demanded. Examples include globules of fat, scorched particles of powder, fish skin, soiled dough etc.

TABLE 23

RAT DESTRUCTION AND DISINFESTATION

Total number of complaints received during the year:—

Rats ... 2,632

Mice ... 3,501

Complaints not finally dealt with by 31st December, 1972: 153

<i>Analysis of above complaints :</i>	<i>Business Premises</i>	<i>Dwelling Houses</i>	<i>Local Authority Premises</i>	<i>Total</i>
No action required following inspection ...	699	228	101	1,028
Cleared by Department	3,062	1,120	513	4,695
Cleared by occupier	40	53	—	93
Not finally dealt with (carry forward to 1973)	216	169	85	470
Totals ...	4,017	1,570	699	6,286

Visits and revisits for all purposes :

In respect of notifications under Part 1, Sec. 2.

Prevention of Damage by Pests Act, 1949 16,295

Routine Inspections :

Ship inspections—Avonmouth (visits and revisits) ...	1,536
Avonmouth Dock	3,031
Portishead Dock	42
City Docks	38
City Airport	32
River/Canal Bank	150
Waste ground, vacant sites, etc.	643
Business premises (building sites, etc.)	235
Wasp nest destruction	455
Miscellaneous visits	573
Sewer treatment programme	22,162
Total ...	45,192

PIGEON CONTROL

1972

No. of complaints received 1,101

No. of visits made 4,357

TABLE 24

DISINFECTION

Disinfection, Drain Tests, etc.

Total number of premises visited for all purposes including disinfection and

disinfestation	32,452
Articles disinfected	32,575
Articles disinfested	2,506
Articles destroyed	1,789
Cleansing of verminous persons (baths)	49
Scabies Baths	1
Disinfections for Hospitals and Nursing Homes	4
Public Library books collected and disinfected	—
Foodstuffs, etc. collected and destroyed—	
No. of cans	24,514
Other foodstuffs (lbs.)	6,224
Premises visited	185
Drain Tests	32
Soiled linen service visits (articles collected, laundered and returned)	31,515
Other work (visits or journeys unclassified)	7,941
Total vehicle mileage for all purposes	42,084

TABLE 25

ATMOSPHERIC POLLUTION—SMOKE CONTROL ORDERS

SMOKE CONTROL ORDERS		Domestic	Commercial	Industrial	Other	Total	Acreage of Area	Date Order Made	Date Order Confirmed	Date Order in Operation
No. 1	...	315	1,053	109	33	1,510	220	9.12.58	24. 3.59	1.10.59
No. 2	...	113	79	34	12	238	50	24. 5.60	9. 9.60	1. 9.61
No. 3	...	438	582	18	39	1,077	100	24. 5.60	9. 9.60	1. 9.61
No. 4	...	632	113	12	10	767	100	24. 5.60	9. 9.60	1. 9.61
No. 5	...	27	15	1	5	48	15	24. 5.60	9. 9.60	1. 9.61
No. 6	...	10,625	149	27	31	10,832	3,000	13. 9.60	11. 5.61	1. 9.62
No. 7	...	3,523	81	5	24	3,633	1,580	11.12.62	16. 7.63	1.10.64
No. 8	...	8,276	177	17	75	8,545	2,150	23. 5.67	18. 4.68	1.10.70
No. 9	...	5,938	329	128	97	6,492	4,121	11. 7.72	awaiting confirmation	
No. 10	...	1,794	181	44	28	2,047	304	10. 6.69	7.10.69	1.10.71
No. 11	...	5,284	658	52	95	6,089	605	11. 7.72	awaiting confirmation	
Total	...	36,965	3,417	447	449	41,278	12,245			

TABLE 26**OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963****(Registrations—General Inspections)**

Number of premises registered during the year	...	...	510
Total number of registered premises at the end of the year	8,285		
Number of registered premises receiving an inspection during the year	...	...	1,506

TABLE 27**OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963****(Number of visits of all kinds by inspectors to registered premises)**

Offices	...	...	...	...	...	...	486
Retail shops	...	...	...	...	...	...	692
Wholesale shops and warehouses			...	...	...	...	220
Catering establishments and canteens				...	...	...	101
Fuel storage depots	...	...	...	...	...	...	7
Other visits L.A. Circ. 5. Para. 7	...		...	...	...	...	4,805
Total							6,311

TABLE 28**OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963****(Analysis of persons employed by workplace)**

Offices	..	...	...	...	...	...	51,482
Retail shops	...	...	...	...	...	...	19,798
Wholesale departments, warehouses	..	...	...	...	...	...	5,964
Catering establishments open to the public		...	...			...	5,177
Canteens	...	...	...	...	...	...	745
Fuel storage depots	...	...	...	...	...	...	80
Total							83,246

TABLE 29**OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963****(Exemptions)**

Total number of exemptions granted	5
------------------------------------	-----	-----	----	---

TABLE 30

OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

(Prosecutions instituted of which the hearings were completed in 1972)

<i>Section Nos.</i>	<i>No. of informations laid</i>	<i>No. of informations leading to a conviction</i>
6(4)	1	—
9(2)	1	—
10(2)	1	—
12(1A)	1	—
24(2)	1	—
49(1)	1	—
15	1	—
Total	7	—

No. of persons or Companies prosecuted	Nil	(1 case—dismissed—insufficient evidence as to
No. of complaints under Section 22	Nil	to occupy premises)
Interim Orders granted	Nil	

TABLE 31

OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

(Accident Reports)

Total No. of accidents reported to the Local Authority ... 253

TABLE 32

SHOPS ACTS, 1950/65

<i>Visits</i>	Retail	...	...	...	...	...	2,568
	Wholesale	...	...	...	...	...	226
<i>Revisits</i>	Retail	...	...	...	...	...	25
	Wholesale	...	...	...	...	...	—
<i>Infringements</i>	Failure to exhibit notices	...	...	...	...	...	446
	Closing hours	...	...	...	...	...	91
	Meal intervals	...	...	...	...	...	2

SUNDAY ENTERTAINMENT ACT—CINEMAS

<i>Visits</i>	9
<i>Revisits</i>	1

YOUNG PERSONS (EMPLOYMENT) ACT, 1938

<i>Visits</i>	7
---------------	---

PUBLIC ANALYST, SCIENTIFIC ADVISER AND
OFFICIAL AGRICULTURAL ANALYST DEPARTMENT

STAFF FOR THE YEAR

Scientific Adviser and Public Analyst	A. J. Harrison, M.Chem.A., F.R.I.C., F.I.F.S.T., M.R.S.H. (appointed 14th September, 1972) E. G. Whittle, B.Sc., (London), M.Chem.A., F.R.I.C. (retired 30th June, 1972)
Deputy Scientific Adviser and Deputy Public Analyst	D. J. Taylor, B.Sc., (London), M.Chem.A., F.R.I.C.
Principal Assistants	G. G. Fisher, B.Sc., (Birmingham), F.R.I.C. G. J. Dickes, M.Chem.A., F.R.I.C. R. A. Evans, B.Sc., (Wales), M.Chem.A., A.R.I.C.
Assistant Analysts	Miss M. V. Wescott, M.Sc., (Bristol) R. Fudge, A.R.I.C. P. M. Holroyd, M.Sc., (Manchester) P. V. Nicholas R. W. Truman, B.Sc., (Hull)
Spectroscopist	D. J. Snodin, B.Sc., (London), A.R.C.S., Ph.D.
Field Officer	R. C. M. Putnam, F.I.P.H.E.
Analytical Assistants	Mrs. S. Martin L. A. Monk A. M. Biggs R. J. Greenslade, L.R.I.C. A. L. Thompson
Trainee Analytical Assistants	Mrs. V. A. Allen S. R. Gallimore (resigned) A. S. Carey J. F. Hill P. Roche
Secretary	Mrs. J. P. Blackford Mrs. A. King (resigned)
Assistant Secretary	Mrs. A. Bryant Mrs. J. P. Blackford (promoted)
Laboratory Attendants	Mrs. E. Gregory Mrs. J. Jones Mrs. E. Friendship Mrs. M. Davis (resigned) Mrs. A. C. Sheppard

THE REPORT OF THE PUBLIC ANALYST, SCIENTIFIC ADVISER AND OFFICIAL AGRICULTURAL ANALYST FOR THE CITY AND COUNTY OF BRISTOL FOR THE YEAR 1972

Incorporating the work on behalf of the County of Gloucester and the
City of Gloucester

A. J. Harrison, M.Chem.A., F.R.I.C., F.I.F.S.T., M.R.S.H.

INTRODUCTION

I am pleased to be able to present my first Annual Report for the Department since taking up my appointment in September, 1972. The greater part of this Report concerns the work carried out under the direction of my predecessor, Mr. E. G. Whittle who was Public Analyst to the authority for twenty-five years prior to his retirement in June, 1972. It is appropriate that I should pay tribute to the work carried out in the department throughout this time when the techniques and analytical capabilities of the department were developed from the immediate post war period with its war time standards and limited resources to the beginnings of the 1970's with its rapidly increasing specialisation and instrumental expertise.

We now begin a new era necessitated by the increasing requirements to protect the consumer and his environment. This requirement is reflected in the reorganisation of Local Government and supported by a host of legislative changes involving foods, drugs and agricultural materials which in turn will be further complicated by the need for harmonising domestic legislation with that of the European Economic Community. To provide scientific services which will adequately cope with local authority problems and enforcement responsibilities for the foreseeable future requires a fresh look at our resources, equipment and capabilities. If those of us responsible for formulating future policy can see further, it is only because we stand on the firm foundation laid by our predecessors.

The reorganisation of Local Government will transfer from Bristol City Council to the new Avon County Council the responsibility for the enforcement of the Food and Drugs Act and the Fertilisers and Feeding Stuffs Act and with it the requirement to appoint the Public Analyst and the Official Agricultural Analyst. In short, therefore, the services provided by the laboratory will be transferred to the new County. Nevertheless, the new Bristol District will still have a considerable need for the services of the Public Analyst in relation to Port Health work and consumer complaint samples which will still be referred to him. Responsibility for environmental pollution remains a district function and in view of the ever increasing workload received from this source it is clear that the laboratory's resources will be needed for scientific evaluation and advice in connection with these problems and the host of other scientific problems and queries emanating from practically every department of the Corporation. Operation of the laboratory on a multi authority basis will present no new problems as parallel services have been provided to the Gloucestershire County Council on a fee paying basis for over twenty years. It is hoped that these services will continue to be provided, for by pooling resources in this way, both authorities have gained, and would continue to gain, in that the specialised equipment and expertise which can be made available is obviously enhanced.

Port Health

The enforcement of the Imported Food Regulations, 1968 requires the provision of analytical facilities in connection with additives and contaminants and imposes the additional requirements that the work shall be completed with the minimum of delay. This requirement is necessitated by the statutory time limit for which a cargo may be held for inspection. The present workload in the laboratory does not permit the examination of these samples as quickly as is desirable for the efficient undertaking of this work and, indeed, the Port Health Inspectorate envisages a future need to increase the numbers of samples submitted. In view of this and the need to keep manpower requirements to a minimum it is proposed to evaluate alternative methods of instrumental analysis to meet this demand. As previously mentioned, the United Kingdom's entry into the E.E.C. will necessitate the harmonisation of much of our legislation including that for food, with E.E.C. legislation. The implications of this as far as Port Health work is concerned are not clear at this stage. However, it seems likely that imports from third countries (i.e. non-E.E.C. members) will be subject to a much wider examination than has been necessary to date.

Food

In addition to domestic changes in legislation detailed in this report it appears that the E.E.C. legislation, which will need to be incorporated at a later stage, is generated in two forms: either as a Regulation which must be adopted "as written" by member countries or alternatively as a Directive which permits Member Countries to incorporate the requirements within their own legislative framework. It is clear that these processes will take a considerable time to complete. However, judging from the draft legislation available at the present time it is equally clear that the amount of analysis required will increase considerably.

Drugs

New legislation for the control of Drugs is embodied in the Medicines Act, 1968, which will supersede much of our present legislation and it is envisaged that these requirements will come into operation in the latter part of 1973. The mechanics of enforcement have yet to be clarified, but clearly there are further implications for the laboratory which will need to adjust its services to meet these new demands.

Agriculture

The enforcement aspects of the Agriculture Act, 1970, are also expected to come into force during 1973. This legislation will supersede the present Fertilisers and Feeding Stuffs Act of 1926 and bring the legislation up to date especially in respect of feed additives. These proposals have been further complicated by the need to incorporate many E.E.C. requirements into the legislation and as a consequence it appears that the work undertaken in the laboratory will be considerably increased.

Environment

Scientific Advisory services under this heading continue to increase with the introduction of additional routine monitoring especially of the heavily industrialised areas and the investigation of the growing number of complaints generated by this highly emotive subject. These latter investigations often involve the laboratory in a considerable amount of work as frequently there are no specified techniques for the measurement required and a literature search followed by the development of a suitable technique is necessary before the problem can be tackled. The blood lead survey was initiated in March, 1972, and in this year over 1,300 samples have been examined for the Medical Officer of Health in conjunction with this survey. The establishment of this technique which involves the detection and accurate determination of fractions of a millionth of a gram of lead in the sample utilises drops of blood absorbed on to filter paper followed by flameless atomic absorption spectrophotometry. The very stringent laboratory conditions required presented many problems especially under the far from ideal conditions offered in Canynge Hall. The staff of the department are to be congratulated for this achievement which has resulted in national recognition of our expertise in this field. General consideration of the difficulties encountered in environmental investigations surrounding industrial premises has highlighted the need for close co-operation between the authority and Her Majesty's Alkali and Factory Inspectorates. Whilst every co-operation is afforded at officer level the future needs for free interchange of information between the organisations involved at all levels will be vital to the efficient control of environmental matters.

Accommodation

The need for new, preferably purpose-built, accommodation for the laboratory has long been recognised and several attempts have been made to rehouse the department in recent years. The position has now reached the stage of need rather than desirability and it will be necessary that concomitant with reorganisation serious consideration is given to this need for larger and more modern accommodation. The present constraints of space, services, design and layout are the principal factors limiting the efficiency of the department.

Staff

During the year under review Mrs. Ann King, Mr. Whittle's secretary left the department and her duties were taken over by his Assistant Secretary, Mrs. J. P. Blackford and, as a result, Mrs. Ann Bryant joined our ranks in the latter capacity.

Mr. S. R. Gallimore one of the department's trainee analysts left during the year and Mr. J. Hill was appointed in his place. Also, Mrs. H. Davis, one of the laboratory attendants left to be replaced by Mrs. A. C. Sheppard.

I am sure my predecessor would wish me to thank the whole of the staff of the department

for their continued loyalty and support throughout the year. It would be inappropriate for me to select specific individuals after so short a time, but I must place on record how much I appreciate the warm hearted and enthusiastic welcome which I received on taking up my post which helped me so very much to settle down in my new environment.

I must, however, acknowledge in this report my gratitude to Mr. D. J. Taylor, the Deputy Public Analyst and Deputy Scientific Adviser for his competent handling of the department during a difficult year and especially during the interregnum. His ready co-operation has helped in large measure to smooth the changeover.

I would like to thank the Chairman and members of the Health Committee, the Medical Officer of Health and the Chief Public Health Inspector for their help and cooperation throughout the year.

During 1973, we shall see further developments as the new local authorities begin to take shape, and consideration is given to the form of the future services to be provided. It is hoped that the opportunity will not be lost to restructure this department in such a way that it can provide a full range of scientific services to the new authorities and can act as a fulcrum for local authority scientific problems and information.

It is through centralisation of technical information, data and expertise in connection with these matters that the most efficient and economic use will be made of the resources available.

Anthony J. Harrison,

Public Analyst, Scientific Adviser and Agricultural Analyst.

1972, LEGISLATION, REPORTS, PROPOSALS AND REVIEWS WHICH AFFECT THE WORK OF THE DEPARTMENT

A. LEGISLATION

1. The Poisons (Amendment) Rules, 1971. Operative 1st January 1972

Amendments were made to the Poisons Rules 1971 to prohibit the sale or supply of calcium potassium or sodium cyanide except by wholesale or to designated individuals and institutions for specific purposes. Certain liquid disinfectants and antiseptics which contain phenols have been added to the list of exemptions contained in Part II of the Pharmacy and Poisons Act, 1933 and the Poisons Rules 1971.

2. The Misuse of Drugs Act (Commencement No. 1) Order, 1971. Operative 1st February 1972

Supplementary provisions of the Misuse of Drugs Act, 1971 were made effective.

3. The Therapeutic Substances (Supply of Antibiotics and Chemotherapeutic Substances for Agricultural Purposes) (Amendment) Regulations, 1972. Operative 21 March 1972

Sale or supply, without prescription, of animal feeding stuffs containing either virginiamycin or flavomycin have been regulated.

4. Deposit of Poisonous Wastes Act, 1972. Operative 30 March 1972

The Act was made in an attempt to control the deposition of poisonous, noxious or polluting waste on to tips and other areas. It is an offence to deposit such materials if it could cause danger to persons and animals and pollute water supplies. The Local Authority and River Authority must be notified as to the nature and quantity of wastes awaiting deposition.

5. The Food (Control of Irradiation) (Amendment) Regulations. Operative 1st April 1972

Where the energy of radiation does not exceed five million electron volts, the level of ionising radiation permitted in the preparation of food has been increased from 10 to 50 rad. Where medically supervised sterile diets are a necessity, provisions are made for irradiation of the food and for the Department of Health and Social Security to be notified.

6. The Medicines Act, 1968 (Commencement No. 1) Order, 1972. Operative 1 July 1972

The provisions of Section 65 of the original Act are brought into effect.

7. The Deposit of Poisonous Waste Act, 1972 (Commencement) Order 1972

Operative 3 August 1972

The duty of persons to give notice of the removal or deposit of poisonous, noxious or polluting waste and the duty of the Local Authority to keep the relevant records was enacted.

8. The Deposit of Poisonous Waste (Notification of Removal or Deposit) Regulations 1972.

Operative 2 August 1972

Section 3 of the Deposit of Poisonous Waste Act, 1972 gives the requirements regarding giving notice to the Local Authority and River Authority of the deposition of poisonous waste. These Regulations exempt certain substances from such notification and include house refuse, trade refuse, building waste, mining waste, waste-paper, plastics and some metals. Certain qualified exemption from notification is given to farm chemicals, radioactive waste, waste deposited in an emergency and waste deposited in accordance with a statutory function.

9. Poisons Act, 1972. Operative 9 August 1972

Section 1 provides for the continuation of the Poisons Board which will continue to be required to draw up the Poisons Rules. Substances treated as poisons under the Pharmacy and Poisons Act, 1933 continue as poisons in this present Act. The sale of poisons and the compilation of the Poisons List are laid down and include certain exceptions.

10. The Trade Descriptions (Origin Marking) (Eggs) Order, 1972. Operative 14 August 1972

Foreign hens eggs in shell cannot be imported or sold in the U.K. unless they are marked with the name of the country of origin. If supplied or sold in containers, these must also be marked accordingly.

11. The Medicines Act, 1968 (Commencement No. 2) Order, 1972. Operative 1 September 1972

This Order prohibits the sale or supply of medicinal products in containers with misleading labels or markings, with false or misleading leaflets and with false or misleading advertisement. The licensing authority can demand copies of such advertisements.

12. The Milk (Special Designation) (Amendment) Regulations 1972. Operative 1 October 1972

Additional conditions have been made in the use of steam injection of milk for carrying out the Ultra Heat Treatment process. The composition of the milk must remain unchanged and a schedule gives details of water treatment compounds which may be used on the water used to produce the steam.

13. The Bread and Flour (Amendment) Regulations. Operative 1 November 1972

Azodicarbonamide up to 45 ppm and L-cysteine hydrochloride up to 75 ppm are now permitted bleaching or improving agents which can be added to flour except wholemeal flour. Specifications are given for these compounds and also for iron powder and ferrous sulphate which replace reduced iron as a flour additive. The specifications for chalk, ferric ammonium citrate, vitamin B1, nicotinic acid and nicotinamide are updated to bring them into line with pharmacopaeial standards.

14. The Labelling of Food (Amendment) Regulations, 1972. Operative 8 November 1972

Some amendments have been made to the Labelling of Food Regulations, 1970 and include provision for textured vegetable protein to be covered as a proper ingredient in confectionery items. The term 'mineral' no longer includes salt and intoxicating liquor has been re-defined. Adjectives and other descriptive terminology are allowed in food labelling and the provisions pertaining to the designations of fish species have been amended. Foods claiming special protein value have been restricted and the vitamin and mineral lists have been extended for use in the labelling of certain foods. That part of The Soft Drinks Regulations, 1964 dealing with labelling has been amended to bring it into line with those labelling regulations which become enforceable in 1976.

15. The Lead in Food (Amendment) Regulations, 1972. Operative 1 January 1973

These Regulations were made on 30 November 1972 and amend the Lead in Food Regulations, 1961 by imposing a limit of 0.5 ppm of lead in food specially manufactured for infant consumption. This limit for dried or concentrated baby foods is calculated on a reconstituted basis according to instructions for reconstitution on the label.

B. REPORTS

1. Food Standards Committee Report on Vinegars, January 1972

Regulations are to be made to cover the composition and labelling of vinegar. Hitherto, there has been a gentleman's agreement that vinegar should contain at least 4% v/v acetic acid but other considerations such as the types of vinegar have not been considered. The Committee recommends that the 4% v/v acetic acid minimum should be statutory and that the type of vinegar should be defined i.e. malt, spirit or grain etc.

2. Royal Commission on Environmental Pollution. 2nd Report, March 1972

The Commission considered whether information regarding the introduction into the environment of industrial effluents and wastes should have a voluntary early warning system similar to that of drugs and pesticides. Although industrial and trade secrets should be protected, it was felt that information should be made available to the appropriate authority and it was suggested that toxicological tests should be carried out before effluents and wastes are deposited into the environment.

3. Food Standards Committee Report on Offals in meat products, May 1972

Certain offals are not permitted in uncooked meat products as laid down in the Offals in Meat Products Order, 1953. The present Committee has proposed that offals be divided into List A which are permitted in both cooked and uncooked products and List B which includes those offals not to be used in uncooked products. It is recommended that in addition to those offals already given in the original Order, pancreas and thymus be included in List A. It is also recommended that the presence of offal should be specifically listed on the label except for inclusion in sausage, meat pie, meat pudding, sausage roll, vol-au-vent, faggot, hamburger, rissole, croquette, haggis and meat ball and in un-prepacked haggis, faggot, savoury duck and black pudding. The term 'offal' or the actual name of the offal should feature on the label of a cooked meat product containing a List B offal. The Committee further recommended that skin in excess of that normally associated with meat flesh should be permitted in uncooked meat products provided that it is subjected to the heat treatment it would receive in normal cooking.

4. Food Additives and Contaminants, Committee Report on Liquid Freezants of Food, June 1972

Three food freezants were considered by the Committee, namely carbon dioxide, nitrogen and dichlorodifluoromethane. On the evidence available it was decided to recommend the use of carbon dioxide and nitrogen as freezants but not to recommend the use of dichlorodifluoromethane. The latter is being used in other countries and has economic and time saving advantages. However, there was not enough toxicological evidence available to satisfy the Committee of its safety in use, particularly since it is possible that organohalogen residues could result in the foods at the end of the freezing process.

5. Working Party on the Monitoring of Foodstuffs for Heavy Metals.

Second Report—Survey of Lead in Food. June 1972

A monitoring for lead in food has been carried out by the Working Party in order to assess the average daily intake of lead. The average lead content in food as the result of 3,000 analyses is 0.13 mg per Kg. food. It was estimated that 220 μ g lead is ingested daily from food and drink and that the lead content of staple foods was well below the limits laid down in the Lead in Food Regulations. Shellfish, particularly from the Bristol Channel and Cardigan Bay areas could contain more lead than other foods but this was not considered hazardous, bearing in mind the low level of the consumption of shellfish. Canned baby foods contained, on average, a level of 0.24 mg lead per Kg food and the Working Party recommended that the permitted maximum of lead in baby foods be reduced (See A, 15).

6. Food Standards Committee Report on the Date Marking of Food, July 1972

The Committee has concluded that the present laws are ineffective in preventing the sale of food which has deteriorated to an unacceptable degree. They have recommended a system of open dating for pre-packed foods, marking with a "sell by" date for foods with a shelf life of 3 months or less. Foods subjected to special processes i.e. vacuum-packed bacon, should be marked with an "open by" date and long life foods should be marked with the month and year of manufacture. Pre-packed bread should be marked with a "sell by day of the week" as an alternative to the date. Although the Committee urges legislation as soon as possible it recommends that it should not be enforced until July 1975.

7. Food Additives and Contaminants Committee Report on the Review of Preservatives in Food Regulations, 1962. July 1972

The Committee has recommended that the definition of "Preservative" be restricted to read "Any substance which is capable of inhibiting, retarding or arresting the growth of micro-organisms or of masking the evidence of such deterioration". Exclusions from this definition should be extended to include permitted solvent, artificial sweetener, bleaching agent and improving agent all of which are covered in more specific Regulations. It was recommended that the use of sulphur dioxide in minced meat in summer months under Scottish Regulations should cease within 5 years. The Committee rejected applications for permission to use pimaricin, octyl gallate, formic acid, hexamethylenetetramine, nordihydroguaiaretic acid, metatartaric acid, fumaric acid with sodium benzoate, benzoyl peroxide and diethyl pyrocarbonate and has sought the withdrawal from the permitted list of tetracyclines, nystatin and copper carbonate. It recommended the addition to the permitted list of a maximum of 6 ppm thiabendazole on banana and citrus fruits and also the use of ethylene oxide in spices. The already permitted use of the sodium salts of methyl and propyl para hydroxybenzoates could be extended to include the potassium salts and also the ethyl esters. The Committee recommended that the currently permitted preservatives should be allowed in the following foods (maximum limit in ppm given in brackets).

Sorbic acid: sweetened nut pastes (1,000); prunes (1,000); wines (200); mead (200).

Sulphur dioxide: cider and wine vinegar (200); concentrated grape juice for home wine making (2,000); dehydrated brussel sprouts (2,500); horseradish sauce (200); Dijon French mustard (200); garlic powder (2,000); fruit yoghurt (60); wine and beer finings, retail sale (12,500 and 50,000 respectively); grapes (15); canned cauliflower (200); dried hops, retail sale (2,000).

Benzoic acid: fruit yoghurt (120); Sauces (250); diabetic jams and preserves (500); low carbohydrate or slimming products (500); tomato pulp, paste or puree (800); glacé or recrystallized fruit (600); beer (70).

p.Hydroxybenzoates: pre-cooked beetroot (250).

Propionic acid: Christmas pudding (1,000).

8. Royal Commission on Environmental Pollution. Third Report. September 1972

The Report recommends a tightening on the pollution control of British estuaries and coastal waters by way of raising the acceptability standard of effluents and of finding out more information on the nature and quantities of effluents discharged into rivers and estuaries. It also recommends that River Authorities should take the responsibility of monitoring for certain critical substances in their area. The Report includes the causes of pollution, the economics of its prevention and reasons for the need of monitoring and research.

9. The Food Additives and Contaminants Committee Supplementary Report on the Review of the Emulsifier and Stabilisers in Food Regulations. September 1972

Substances not on the present permitted list of emulsifiers and stabilisers but which have been recommended as safe are furcelleran, xanthan gum, polyoxyethylene (20) sorbitan stearate and oleate and polycondensed fatty acids of castor oil. Restriction on the use of sorbitan, polyoxyethylene sorbitan esters and sodium sulphosuccinate should be removed and polyglycerol esters of dimerised fatty acids of soya bean oil are recommended for use as tin greasing emulsifiers up to a maximum of 20 ppm in foods as a result of such use. The Committee did not approve the proposed usage of sodium lauryl sulphate as an alternative to stearyl lactates in high protein and gluten breads. Further consideration has been given to the use of citroglycerides, propylene glycol esters, lactic acid, sucrose esters and sucroglycerides in foods other than bread.

C. LEGISLATION PROPOSALS AND REVIEWS

1. Skimmed Milk with Non-Milk Fat Regulations 1960

It was proposed in August 1972 to add certain proprietary formulations to the list of products exempted under these Regulations.

2. Colouring Matter in Food Regulations, 1966

It was proposed that new Regulations be brought into force on 1st July 1974 to include the removal of 7 colours from the permitted list and the addition of 9 new ones. Also, solvents and diluents for colours will be prescribed together with purity criteria of the diluents and colours.

3. Mineral Hydrocarbons in Food Regulations, 1966 Press Notice, 24th April 1972

The Food Additives and Contaminants Committee has been asked to review these Regulations

bearing in mind the recent introduction of novel proteins derived from the growth of yeasts on hydrocarbon substrates.

4. Antioxidants in Food. Press Notice, 18th May 1972

The Food Additives and Contaminants Committee have been asked to review completely the existing legislation.

5. Yoghurt, Other Cultured Milks, and Cream and Milk Desserts. Press Notice, 27th October 1972

The Food Standards Committee have been asked to assess in the first instance the necessity for legislation regarding the quality of yoghurt. In particular it has been asked to consider the milk fat content, the type and amount of fruit added to fruit yoghurt, the use of flavourings, the need for additives, heat treatment and labelling.

**SUMMARY OF SAMPLES EXAMINED DURING THE YEAR ENDED
31st DECEMBER, 1972 FOR THE CITY AND COUNTY OF BRISTOL
THE COUNTY OF GLOUCESTER AND THE CITY OF GLOUCESTER**

	<i>Bristol</i>	<i>Gloucester County</i>	<i>Gloucester City</i>
Food and Drugs Act 1955			
Milk	368	717	20
Food	1,046	1,129	315
Drugs	24	121	4
Port Health	501	Nil	Nil
National Pesticide Survey	16	21	2
Trade Descriptions Act	84	71	3
Consumer Protection Act			
Toys Safety Regulations	48	79	1
Rag Flock Act	24	Nil	Nil
Poisons and Pharmacy Act	Nil	5	Nil
Fertilisers and Feeding Stuffs			
Fertilisers	20	46	13
Feeding Stuffs	202	195	6
Water Analysis			
Swimming Baths	184	Nil	12
Water and Effluents	222	167	15
Environmental Pollution			
Deposit Gauges	57	58	12
Lead Dioxide Candles	Nil	3	Nil
Continuous Smoke	721	350	Nil
Special Survey Avonmouth	667	213	Nil
Miscellaneous			
General	1,261	372	9
District Inspectors	285	Nil	Nil
Blood Lead Survey	1,337	106	Nil
Chlorination	126	54	13
TOTALS ...	7,193	3,707	425
GRAND TOTAL ...	11,325		

SECTION 1

REPORT FOR THE CITY AND COUNTY OF BRISTOL

Table 1 Food and Drugs submitted during 1972

Alcoholic Beverages	...	...	...	8
Non alcoholic Beverages	...	...	...	66
Cereal and Starch Products	...	...	...	34
Cheese and Cheese Products	...	...	...	21
Drugs	...	...	...	24
Fats and Oils	...	...	...	29
Fish and Fish Products	...	...	...	55
Flavourings and Colourings	...	...	...	13
Flour and Flour Confectionery	...	...	...	54
Fruit	...	...	...	42
Meat and Meat products	..	...	...	87
Gelatine and Products	...	...	...	8
Milk	...	...	...	368
Milk Products	...	...	...	204
Nut and Nut Products	...	...	...	11
Preserves	...	...	...	23
Poultry and products	...	...	...	14
Sauces and pickles	...	...	...	10
Slimming and diabetic foods	...	...	...	17
Spices, herbs condiments	...	...	...	64
Soups	...	...	...	13
Sugar and Sugar Confectionery	...	...	...	19
Vegetables	...	...	...	30
Other foods	...	...	...	48
Canned foods	...	...	...	54

TOTAL 1,316

Table 2 Percentage Adulteration 1972

Milk	...	...	...	1.4%
Food	...	...	...	1.1%
Drugs	...	...	...	0.4%

Table 3 Average Composition of Genuine Milks

		<i>Fat</i>	<i>Milks Solids Not Fat</i>
Ordinary Milk	...	3.56%	9.00%
Channel Islands Milk	...	4.41%	9.12%

Summary of Adulterated Samples

These are comments which, in the main, apply to foods and drugs which have been shown on analysis to be compositionally irregular.

Table 4 Ordinary Milk

<i>Lab. No.</i>	<i>Irregularity</i>
V85	8.2% Added Water
V93	6.7% Deficient in Fat
V94	6.7% Deficient in Fat

Table 5 Channel Islands Milk

<i>Lab. No.</i>	<i>Irregularity</i>
Z100	5% Deficient in Fat
Z102	5% Deficient in Fat

Table 6 Foods

<i>Lab. No.</i>	<i>Description</i>			<i>Irregularity</i>
ZD97	Milk Bread	...	...	Sample contained no milk sugar (lactose) whereas at least 6% whole milk solids should be present.
VD241	Ice Cream	...	...	Sample contained only 0.1% Fat whereas there should be at least 5% Fat present
VD242	Ice Cream Powder	...	...	Sample contained only 3.1% Fat, which used with water alone, could not possibly make ice cream which would comply with the minimum 5% fat standard
VD245	Ice Cream Powder	...	...	Sample contained only 1.9% fat, which used with water alone, could not possibly make ice cream which would comply with the minimum 5% fat standard
VD253	Ice Cream	...	...	Sample contained only 0.55% fat, whereas there should be at least 5% fat present
VD275	Pork Sausages	...	...	Sample 10.8% deficient in meat. It contained only 58% meat whereas there should be at least 65% meat present
XD156	Sliced Roast Beef in Gravy	...	...	Sample 3.3% deficient in meat. It contained only 58% meat whereas there should be at least 60% meat present
VD326	Ground Ginger	...	...	Sample was, in fact, ground cinnamon
XD208	Buttered Cheese Rolls (formal)	...	...	Fatty spread on these rolls contained no more than 2% butter
ZD213	Creamy Toffees	...	...	Sample contained only 2.8% butter fat whereas toffees so described should contain at least 4% butterfat

Table 7 Drugs

<i>Lab No.</i>	<i>Description</i>			<i>Irregularity</i>
YD20	Compound Codeine Tablets	...	...	The acetyl salicylic acid in the sample contained 1% free salicylic acid whereas the British Pharmacopoeia permits a maximum of only 0.6% free acid

Comments on Other Foods

Veal and Ham Paste	...	...	Contained only 65% of meat whereas 70% is the minimum requirement. The article was returned as of poor quality. The jar looked to be very old stock and probably predated the operative date of the Fish and Meat Spreadable Products Regulations 1968.
Liver Pate	...	...	Initially this article was thought to be deficient in liver, but its true description was edible oil and liver pate and the 70% minimum of liver does not apply.
Chooran	...	...	Microscopical examination indicated starch, fibre and vegetable structures. The article is, in fact, a herb.
Shellfish	...	...	Several samples of fish products including clams, eel, mussels and snails were examined for trace metals. The range of the results were (all results on wet weight)
			Cadmium 0.015 to 0.38 ppm
			Lead 0.2 to 1.4 ppm
			1 sample of clams Lead 5.3 ppm
			Zinc 12 to 85 ppm
Chapatti Flour	...	...	This was found to be infested, webbing and excreta of the Ephestia moth were present.

Oranges and Apples	These were submitted under the National Pesticide Survey. BHC ranged from a trace to 0.03 ppm. Mercury was less than 0.01 ppm and thiocarbamates were absent.
Dried Japanese Fish	This contained mercury equivalent to 0.01 ppm.
Plain Flour	This contained calcium carbonate within the requirements of the Bread and Flour Regulations 1963 as amended.
Baby Food	This contained 6.8% of moisture and was showing early signs of rancidity. The guaranteed life according to the packet had been exceeded by some 10 months.
Cooking Oil	The analytical constants were consistent with this oil being a mixture of groundnut and soya oils.
Dates	These were shown to be infested with excreta and webbing of moth larvae.
Liquid Egg	This sample failed the alpha amylase test showing that liquid egg had not been pasteurised correctly.
Cod Roe, Goat Fish	These showed levels of 0.01 and 0.05 ppm of methyl mercury respectively.
Spices	These revealed traces of Gamma Benzene Hexachloride, one of the most common organochlorine pesticides.
Grapefruit Juice ...	High tin levels.
Ham and Chicken Roll	Contained levels of sodium nitrate at 1,320, 1,100 and 390 parts per million. The two higher levels are excessive by new standards recently introduced and the manufacturers stated that this was undoubtedly old stock.
Meat and Gravy Pie	Contained only 14.6% meat.
Cockles, Whelks, Winkles and Mussels	These were examined for trace metals and the lead ranged from 0.7 to 1.0 ppm, the cadmium from 0.3 to 3.3 ppm and the zinc from 26 to 270 ppm. The whelks, which had been harvested off the Carmarthen-shire Coast showed the highest levels.
Baked Beans ...	These had a tin content of 110 ppm, which although within the recommended maximum of 250 ppm does show that some corrosion is taking place and the stock should be disposed of.
Tomato Juice ...	The tin content of this canned product was 125 ppm, and as such, was well within the recommended maximum of 250 ppm tin. Despite an acceptable mould content, attention was drawn to the fact that corrosion was taking place and the consignment should be consumed without delay.
Ice Cream	Although bacteriologically sound, this ice cream failed the methylene blue test. The sample was tested chemically for a substance which might cause the reduction, for example a preservative, but tests proved negative.
Cockles, Mussels, Winkles and Whelks	Levels of trace metals were checked in these shellfish and on the fresh weight, lead ranged from 0.7 ppm to 0.1 ppm, zinc from 19 to 34 ppm and cadmium from 0.13 to 0.90 ppm.
Texgran	This was a sample of textured vegetable protein and when analysed it was found to comply very closely to its declared composition, and had the declared calorific value. Its composition when hydrated with three times its weight in water compared closely with that of lean meat.
Prawns, Cockles and Mussels	Levels of trace metals were checked in these shellfish etc. and on the fresh weight, lead ranged from 0.4 to 1.3 ppm, zinc from 18.5 to 23.5 ppm and cadmium from 0.07 to 0.22 ppm.
Bartlett Pears (Canned) ...	These were submitted as a result of a complaint of a 'tinny' taste from another can from the same source. The lead, tin, copper, zinc and cadmium levels were 0.4 ppm, 15.0 ppm, 0.8 ppm, 1.7 ppm and 0.02 ppm respectively and all were well within acceptable limits.

Rum and Raisin Fudge ...	The absence of alcohol in this confection suggested that rum had not been used as the flavouring, and the product would be more aptly described as 'Rum Flavour and Raisin Fudge'.
Mushrooms and Parsley ...	These were examined chemically as part of an investigation in a case of food poisoning, but exhaustive tests failed to reveal any chemical agent which might have been responsible.
Gravy and Sliced Roast Pork ...	This frozen product was reported as being borderline quality as the meat content at 47% fell just short of the 50% minimum requirement.
Canned Tuna Fish	Following the disclosure two years ago that tuna fish was likely to contain methyl mercury compounds, a watch has since been kept on canned tuna fish sold in the City. The levels found in these samples ranged from 0.08 to 0.10 ppm, which are very satisfactory low levels.
Filbert Nuts ...	These nuts were submitted because of an enquiry relating to the toxicity of the reddish brown colour which gave the nuts a distinctive sheen. Chemical analysis showed the colour to be iron oxide, a permitted colouring matter which is approved under the Colouring Matter in Food Regulations for this purpose.
Raisins ...	These raisins, taken from a 28 lb box, contained a foreign body which was identified as the larva of the saw toothed grain beetle, <i>Oryzaephilus Surinarnensis</i> .

Fertiliser and Feeding Stuffs Act, 1926

Table 8

	<i>Total</i>	<i>Irregular</i>
Fertilisers ...	20	4
Feeding Stuffs ...	202	30

The samples of fertilisers were submitted by the City Health Inspectorate and the animal feeding stuffs came mainly through the Port Health Inspectorate at Avonmouth.

Irregularities were demonstrated in four of the fertilisers and details are listed in the following table:

Table 9

<i>Ref. No.</i>	<i>Description</i>	<i>Irregularity</i>
F&F 3	Regular fertiliser (Informal)	High in soluble phosphoric acid
F&F 7	(Formal)	Low in insoluble phosphoric acid
F&F 8	Frome All-purpose Fertiliser	Low in soluble phosphoric acid
F&F 15	Fertiliser	Potash high. Insoluble phosphoric acid high. Soluble phosphoric acid low.

Thirty feeding stuffs showed deviation outside the Statutory limits of variation permitted by the Regulations for the main ingredients, and details are shown below in Table 10.

Table 10

<i>Ref. No.</i>	<i>Description</i>	<i>Irregularity</i>
5A/72	Intensive Dairy Nuts	High in protein
7A/72	Hylay Chips	High in protein
9A/72	Hybrilay	High in oil
12A/72	Bacon Grade Pellets	High in protein
16A/72	Milkflo Nuts	High in protein
33A/72	Hybrilay	High in fibre
40A/72	Creep Feed Pellets	Low in copper
67A/72	Intensive Growers Mash	High in protein
68A/72	Chick Starter Mash	Additives High
90A/72	Beef fattening Nuts	High in oil
96A/72	Calf Weaner Pellets	High in oil Low in protein

Table 10 (continued)

<i>Ref. No.</i>	<i>Description</i>	<i>Irregularity</i>
116A/72	Hygrade Sow and Weaner Pellets	High in protein
121A/72	Calf Weaner Pellets	Low in oil
132A/72	Broiler Finisher Pellets	High in protein
137A/72	Rich Dairy Nuts	High in fibre
138A/72	Sow and Weaner Nuts	High in fibre
152A/72	Calf Weaner Pellets	Low in oil
173A/72	Breeders Mash	High in oil
178A/72	High Yielders Cubes	High in oil
181A/72	Dairicon Pellets	Low in protein
184A/72	Mandeville Red Layers Pellets	Low in oil
188A/72	Turkey Breeder Grower Pellets	High in oil
197A/72	Beef Finisher Pellets	High in oil
198A/72	Dairy Pellets	High in fibre
201A/72	H.B.F. Dairy Pellets	Low in protein
203A/72	Milk Flow 34 Pellets	High in oil
206A/72	Gold Label Nuts	Low in oil
211A/72	Ewbol Lambwena Pellets	High in protein
215A/72	Ewbol Lambwena Pellets	High in protein
222A/72	High Yielders Cubes	High in oil

Pharmacy and Poisons Act, 1933

There were no samples submitted under this Act during the year.

Trade Descriptions Act, 1967

The majority of the work conducted under this Act was in relation to the analysis of petroleum products. These consisted of petrols, petrols and oil mixtures, paraffins and motor oils.

Infra-red spectroscopy has played an even greater part in the screening of petrols for their octane rating and although this technique does not provide an absolute rating of the fuel, the analytical results are providing a useful reservoir of data which should lead to a more accurate assessment.

Table 11

<i>Total No.</i>	<i>Commodity</i>	<i>No. of irregular</i>
91	Petrol	5
6	Paraffin	
6	Petrol and Oil	
2	Motor Oil	
1	Diesel Fuel	
1	Meat product	1
1	Item of furniture	1
1	Pet Food	
1	Set of Cloths	
1	Packet of Grass Seed	
1	Packet of Detergent Powder	
1	Tea Pot	

Comments on irregular samples

One sample of petrol, submitted as a result of a complaint contained 0.6% of water.

Four samples of petrol, stated to be 4-star, gave infra-red characteristics more appropriate to a 3-star petrol. This method of screening allows for more samples to be examined than otherwise would be possible if every sample had to be sent away for engine testing at prohibitive cost.

A sample of a meat product described as a 'Sundown Grill' was received and the word 'cutlet' appeared on the label. It did not necessarily mean a particular cut of meat in this case, but referred more to the cutlet-like shape of the compounded article. The amount of meat present was reasonable and no exception was taken to the description.

The item of furniture was a wardrobe which was submitted with the description 'mahogany'. In the main, it was made from particle board, of which 'chipboard' is an example. The wooden chips in the board were shown chemically and microscopically to consist of equal parts of pine

and hardwood chips. A mahogany grain effect had been printed on the outer filled surface and it was, therefore, wrongly described as 'mahogany' and a successful prosecution followed.

Consumer Protection Act (Toys Safety Regulations)

Analytical work has continued throughout the year to monitor heavy metal levels in paint films on children's toys and has been extended to cover paint used on furniture and hand-painted toys in playgroup nurseries.

Some 48 samples were submitted and six received adverse comment in the light of the Regulations.

Five of these criticised items were chairs from a nursery which had lead levels above 5,000 ppm and although not strictly toys within the meaning of the Regulations were a potential risk to young children.

One toy, a musical wheel, contained 9,200 ppm of lead in the paint, which was nearly twice the legal maximum limit for the metal.

Two plastic toy gorillas were examined as a result of a complaint that they were sticky to the touch. Analysis showed that the plastic from which they were made contained an excess of di-nonylphthalate, a plasticiser which although it was of low toxicity, it could cause sickness if chewed by children.

An enquiry from the public concerned a plastic ball, the size of a marble, which when irradiated with strong light became luminescent, the phenomenon fading slowly. The glow was probably due to zinc sulphine incorporated in the plastic which is outside the scope of the Regulations. However, comment was made on the size of the ball, which was sufficiently small for a child to swallow, with the consequent danger of asphyxiation.

Rag Flock Act

Twenty-four samples were brought in for examination and analysis and all were found to be satisfactory, complying with the statutory tests laid down in the Act, and were passed fit for re-use.

Swimming Baths

One hundred and eighty-four samples of swimming bath water were analysed during the year, coming mainly from the Bristol Public Baths, with a lesser number from School pools. The aim of this analytical service is to give Scientific Support to the Baths Department Staff who are responsible for the treatment of bathwater to ensure that it is hygienically safe and attractive to bathers. Independent checks under laboratory conditions help to anticipate such problems as eye irritation, and give a more accurate assessment of water quality.

Water Analysis

The laboratory received 222 samples of water for analysis from the City of Bristol and these consisted of drinking waters taken as a matter of routine, ships' drinking water, seepages, effluent and boiler water.

The drinking water from the mains proved to be chemically satisfactory in every case and some were examined in some detail for lead in connection with investigational work with children showing higher than normal lead levels in their blood.

Following complaints of fresh water shrimps in the mains water in northern districts of the City, the supply was treated to remove the nuisance and thirty samples were taken to ensure that treatment levels were not excessive and had imparted no undesirable residues to the water.

A survey of drinking water fountains was undertaken late in the year for the presence of heavy metals which might accumulate during periods of disuse, but in every case, the levels of all metals was quite satisfactory.

Several samples were examined for taste and odour following complaints which had arisen at the same time as the shrimp episode, but the phenomenon was only temporary and the water was chemically sound. A ship's water was also analysed following a complaint.

Fourteen samples of water which had seeped to the surface in basements or on walls were analysed to establish their origin and in most cases guidance was able to be given as to whether the seepage was rain water, mains water, kitchen waste or sewage.

Port Health Work

The laboratory receives the vast majority of its animal feeding stuffs samples through the Port Health Inspectorate, and in addition to this, the Inspectorate conducts a sampling programme under the Imported Food Regulations of foodstuffs at their point of entry into the Country. 501 samples were analysed under these provisions in 1972. Canned goods are examined particu-

larly for heavy metal contamination, dried fruit and vegetables for preservatives and pesticide residues and other foods for additives and contaminants.

Several canned foods, particularly fruit and vegetables contained high amounts of tin, which, whilst less than the recommended maximum of 250 parts per million did indicate that corrosion was more advanced than normal and it was recommended that these stocks were to be marketed without delay.

Prawns were examined for colours and preservatives which were shown to be absent and although organomercurials were present, they were in very low concentration. Regular checking of canned fish for organomercurial compounds has taken place since the disclosure in 1970 that methylmercury had been detected in tuna fish in the United States and this country.

One sample of canned loganberries contained four parts per million of lead, twice the statutory maximum concentration and particular attention has been paid to future batches of this product. Arsenic was virtually absent which implied that the source of the lead contamination was not lead arsenate, used as an Agricultural Spray.

District Inspectors' Samples

These samples are representative of the wide range of problems which District Public Health Inspectors meet and which analysis helps to solve. They include foodstuffs sampled at container depots, insect infestations, dust nuisances and specimens taken from restaurants.

Table 12 Samples received

Foods from depots etc.	160
Mouse droppings	3
Hygiene Investigations	15
Dust Nuisances	16
Insects for identification	16
Samples for insecticide residues	2

The foodstuffs, in general, complied with statutory limits for preservatives and metals and the hygiene specimens were examined mainly to assess the degree of cleanliness in restaurants.

Identification of insects once more was a prominent feature of the work and included most of the common varieties met with in domestic and food premises. However, the laboratory did encounter an unusual tropical insect (Buprestidae fam.) found in some imported timber.

Education Department

Fifty-six samples were examined for this department in the year and they consisted of the following:

Table 13

Cleaning materials etc. used in Schools	45
Soils	9
Plaster	1
Dishwasher residues	1

The cleaning materials included disinfectants, detergents, soap flakes, white spirit, distillates and floor pads usually being examined comparatively for contract purposes and advice based on these analyses was given as to value and effectiveness.

The soil samples were taken from test borings and were analysed for sulphate, which, if present has a bearing on the type of cement used in the laying of concrete foundations.

A sample of plaster was analysed to find out why there was a structural breakdown and an effluent from a dishwasher revealed that its malfunction was due to blockage from soap and hardness salts.

City Engineer's Department

Six samples were submitted in all, five of which were associated with tarmac thought to have been damaged by diesel oil. Instrumental techniques verified this theory.

A water sample from Netham Tip was examined specifically for arsenic, but no trace was found. This was reassuring because the tip is the site of an old chemical works, known to have been using this material.

Dental Health Department

A preparation used in dentistry which is now no longer commercially available was analysed in order that further material could be manufactured to complete further dental work.

Port of Bristol

Four samples of detergent were sent in to the laboratory by the Havenmaster to assess their efficiency in dealing with oil slicks and advice, supported by technical information obtained from the Warren Spring Laboratory, was given.

Two powders thought to be white arsenic, (arsenious oxide) were found on analysis to be sodium bicarbonate.

The increasing emphasis now being placed on the control of potential environmental pollutants is expanding yet another aspect of the work carried out in the department and creating a need for specific and accurate methods of analysis.

Biochemical and Toxicological Examinations

There has been a tremendous escalation in this branch of the work in 1972, mainly due to the investigation of the blood lead levels of children and some adults in Bristol and surrounding areas.

It was imperative that a technique was used which utilised only drops of blood from young children to avoid unnecessary distress during the taking of the specimen.

The purchase of special equipment costing £5,000 facilitated the adoption of an existing technique for the micro-determination of lead and despite many initial set-backs due to power cuts, dust nuisances and contamination, the staff have perfected a rapid and reliable method for estimating lead.

In total, some 1,443 specimens were examined which included 106 from the County of Gloucester and each result reported was based on at least six independent determinations on each specimen, a feat impossible by more conventional methods. It is gratifying to note that as a result, the Bristol laboratory has become nationally recognised as a reference laboratory in this field, and in view of the amount of work carried out, the capital expenditure has been fully justified.

In addition, the conventional methods have still been used for other analyses and these are shown in table 14.

Table 14

Urine for Gold ...	...	5
Urine for Mercury	...	141
Urine for Lead ...	...	6
Urine for Arsenic	...	2
Urine for Cadmium	...	1
Blood for Lead ...	...	68
Blood for Mercury	...	4
Blood for Zinc ...	...	1
Faeces for Lead ...	...	1

With the exception of the urinary mercury estimations the work shown in Table 14 consisted of specimens submitted by Pathology Laboratories of Hospitals in connection with diagnoses or treatments.

Some of the mercury tests were performed on behalf of dental nursing staff who could be exposed to mercury vapour unless certain precautions are observed. The remainder of the samples were examined on behalf of operatives who work with elemental mercury or with organo-mercurial seed dressings.

Foreign Matter in Food and Other Miscellaneous Analyses

Perhaps some of the most interesting and unusual work a public analyst encounters comes under this particular category and 1972 as a year did not disappoint in the wide variety of materials examined. Some were not deserving of the publicity they received in the National Press and necklaces made from Abrus beans received some notoriety, which included cartoons in at least one Sunday Newspaper.

Consumer complaint samples included the now familiar range of contaminants such as soiled and charred dough, rodent droppings, a wide variety of fragmented and entire insects not all of which are those commonly regarded as infestation types. A multiplicity of moulds in different stages of development and the miscellany of inorganic objects which continue to find their way into food have also been examined. The following are representative of some of the samples submitted under this heading and give some indication of the wide range of materials encountered and the breadth of analytical expertise which must be available to carry out this work efficiently.

Red pickled cabbage	Cap of jar badly corroded as a result of attack by acetic acid in the vinegar.
Cabbage Leaf and apple	No staining or scorching Deposit shown to be algal growth and some domestic soot.
Meat	Discoloured by blue dye such as is used for marking carcasses.
Potassium cyanide	Confirmed as such and destroyed.
Flea Collar	Contained the pesticide gammexane.
Malt Vinegar	Cloudy appearance and unusual smell due to traces of a pine oil disinfectant.
Golf Ball	Examined in reference to an accident resulting from a boy's activities in attempting to unwind the ball. The centre of the ball contained compounds of barium, aluminium and silicon in glycerol.
Necklace	The beans were identified as the <i>Abrus precatorius</i> , also known as the precatory bean or rosary pea. The bean contains a very toxic principle known as Abrin. This being so it was recommended that the necklace should be surrendered for destruction. Following this incident and the subsequent press coverage over 350 necklaces were submitted for identification from the Bristol area alone.
Deposits	Dusts shown to be of road origin together with evidence of grit from boiler emissions.
Canned apples	No undue lead but tin was approaching 250 ppm.
Tomato Ketchup	In early stages of fermentation with some gas formation.
Canned Apples	Can severely stripped. Tin at 215 ppm approaching recommended maximum.
Cheese	Had a most offensive odour of sulphuretted Hydrogen produced by an organism capable of attacking cystine in the cheese with gas formation.
Arsenic	2 lbs. of arsenic accepted for disposal.
Antu	A rat bait, also accepted for disposal.
Grapefruit Juice	Satisfactory in respect of lead and tin.
Suspected Mouse Droppings	Items shown to contain typical mouse hairs.
Tinned Gooseberries	Golden brown transparent flakes in the fruit were identified as the peeling lacquer of the can.
Cheese	Foreign matter identified as a crystal of sodium phosphate used as an emulsifying agent.
Baby Food	Contained a splinter of wood $\frac{3}{8}$ " long.
Beefburgers	Contained a portion of laminated cardboard coloured green and brown and derived from the packet.
Watercress	Only two snails in the four samples. The snails were the wandering pond snail—the commonest of pond snails which do not harbour harmful parasites.
Orange Barley Water	Contained seven small fruit flies.
Bread	Foreign matter was soiled dough with a few jute fibres from sacking.
Bread	Foreign body was a small beetle, <i>Tribolium castaneum</i> , the Red Rust Flour beetle.
Cornflakes	Contained a fragment of stainless steel weighing 0.166 grams.
Bread	Contained a rubber like mass of Lecithin a phosphatide used as a bread improver.
Crispbread	Contained five live insects identified as psocids or book lice.

Canned Corn	Contents mouldy on opening. Pin hole in can.
Meat with foreign matter	This was a small parasite worm.
Water	Contained three freshwater shrimps.
Grapefruit (Canned)	Had an excessive tin content of 1,000 ppm.
Marmalade	An intact jar contained an 18 mg. piece of broken glass.
Cheese with foreign matter	Confirmed as a paint flake.
Kippers with foreign matter	Proved to be dried fish scales.
Greased plates	These had been exposed to monitor sooty particles in the air, which proved on capture to have come from a faulty oil-fired boiler.
Rice, Sugar, Custard Powder and Dried Milk	These cooking ingredients were examined for their effect on dishes which contain Vitamin C. This problem arose with 'Meals on Wheels' and it was found that rice pudding and custard only had a marginal effect on the Vitamin.
Butter with foreign matter	This was removed and shown to be half a chewing gum wrapper.
Milk Bottle with foreign matter	This consisted of minute brown objects which were shown to be small midges Chironomidae family.
Weedkiller, onions and runner beans	Examined in connection with an allegation that a neighbour's weedkiller had affected garden crops. The onions and runner beans showed no trace of chemicals and discolourations were quite natural.
Chicken in Jelly with foreign body	This was shown to be a fragment of a blood vessel, natural to the product and, therefore quite harmless.
Apple Pie Filling	This was the residual pie filling left in the nearly empty can. It was contaminated with iron and lead, mainly as a result of leaving it in the can.
Portion of White Loaf with foreign body	This was shown to be a specimen of the Australian Spider Beetle, <i>Ptinus tectus</i> .
Milk	A complaint from the public alleged watering and 68% added water was demonstrated.
Two unopened bottles of Lemon Drink and Orange Drink	Shown to be fermenting due to incomplete sterilisation of containers.
Vending Machine Deposit	This black deposit consisted of dark clumps of mould from the spout.
Irish Stew with foreign matter	This was shown to be a clump of coarse bovine hairs, which would not be expected in a product of good commercial quality.
Apfelstrudel	An enquiry had been made regarding the edibility of the outer case of this sample. It appeared to be paper but was, in fact, mainly a film of wheat starch.
Dietary supplement	Containing black specks alleged to be rodent droppings were, in fact, a variety of seed coats associated with the components of the product.
Milk in bottle with foreign body	This was proved to be a metal bottle top which had been deliberately forced into the milk bottle.
Sausage roll with foreign matter	This was shown to be a length of adhesive tape.
Jam Doughnut with foreign matter	This proved to be a white pen top.
Sweets containing metal fragment	A metal fragment which was alleged to have been found in some sweets was shown to be copper wire 4mm long which had been cut by pliers.

Sponge Sandwich	Alleged to be mouldy. Was found to be free from foreign matter including mould growths. A yellow green discolouration was due to a trace of edible food colour.
Grapefruit segments with white specks	These were shown to be clusters of the naturally occurring bitter principle naringin which may crystallize on the exterior of the fruit segments, particularly after storage.
Frozen Peas	These were submitted because of their disagreeable smell and appearance. Comparison tests showed that they were out of condition, probably due to storage at an elevated temperature.
Butter with foreign body	This was shown to be a piece of soda glass weighing 0.165 grams and measuring 5 mm by 3 mm.
Anorak	This garment was submitted for examination following a complaint that 'Atmospheric Pollution' had caused discolouration. One spot had all the appearances of attack by dilute sulphuric acid, probably battery acid.
Two meat pies, a pie casing and a pasty	These were submitted for examination. The two meat pies were found to have rodent droppings embedded in the bottom pastry. The pie casing and pasty both had small dark objects in them, but these were shown to be charred starch material.
Peanuts with foreign body	This proved to be the hind limb of a mouse.
Lady's Stocking Tights	These were examined to find the cause of the holes which had appeared in them and it was demonstrated that they had been caused by hot cigarette or tobacco ash.
Coffee Beans with foreign matter	This proved to be fragments of iron oxide, suggesting that they were rusty scales from the roasting vessel.
Quick Dried Peas with foreign body	This was shown to be a piece of zinc 12 mm long by 4 mm wide.
Peanut Brittle Bars with foreign bodies	These were shown microscopically to be the common ant, <i>Lasius niger</i> .
Wrapping from Canadian Cheddar Cheese	This was examined and shown to consist of waxed paper with yellow grease, having characteristics of yellow petroleum jelly. The paper and grease contained 70 ppm sorbic acid.
Brown Paper	The colour used in this paper was a permitted food colour Brown FK.
Box of Demerara Sugar with foreign body	This was shown to be a pellet of rodent excreta.
Brown Sugar with foreign matter	The foreign matter was shown to be lumps of cane sugar.

REPORT ON THE WORK FOR THE COUNTY OF GLOUCESTER

The introduction to this report summarises the work of the laboratory and is equally applicable to the requirements of the County Council. It only remains to place on record my appreciation of the help and co-operation received from the Chairman and members of the General Purposes Committee and in particular the considerable help and close co-operation of the Chief Inspector of Weights and Measures, Mr. M. A. Chapman and his team of Inspectors. The laboratory also provides services to the Public Health Inspectors at County level as well as to those in constituent Districts, and I am grateful for their continued support on the wide variety of matters involved.

It is hoped that following reorganisation scientific services will still be provided to the County with consequent advantages to all who use the laboratory facilities.

Summary of Examinations

Food and Drugs Act 1955						
Milk	...	...	...	...	...	717
Food	...	...	...	...	...	1,129
Drugs	...	...	...	...	...	121
Port Health	...	...	...	...	...	Nil
National Pesticide Survey	...	...	...	...	...	21
Trade Descriptions Act	...	...	...	...	...	71

Consumer Protection Act					
Toys Safety Regulations	...	...	...	...	79
Rag Flock Act	...	...	...	...	Nil
Poisons and Pharmacy Act	...	...	...	...	5
Fertilisers and Feeding Stuffs					
Fertilisers	...	...	...	...	46
Feeding Stuffs	...	...	...	...	195
Water Analysis					
Swimming Baths	...	...	...	...	Nil
Water and Effluents	...	...	...	...	167
Environmental Pollution					
Deposit Gauges	...	...	...	...	58
Lead Dioxide Candles	...	...	...	...	3
Continuous Smoke	...	...	...	...	350
Special Survey Avonmouth	...	...	...	...	213
Miscellaneous					
General	...	...	...	...	372
District Inspectors	...	...	...	...	Nil
Blood Lead Survey	...	...	...	...	106
Chlorination	...	...	...	...	54
					<hr/>
					3,707
					<hr/>

Table 15 Summary of Foods and Drugs Samples submitted during 1972

Alcoholic Beverages	...	...	...	...	9
Non alcoholic Beverages	...	...	...	...	95
Cereal and Starch Products	...	...	...	...	48
Cheese and Cheese Products	...	...	...	...	51
Drugs	...	...	...	...	121
Fats and Oils	...	...	...	...	61
Fish and Fish Products	...	...	...	...	70
Flavourings and Colourings	...	...	...	...	9
Flour and Flour Confectionery	...	...	...	...	64
Fruit	...	...	...	...	124
Meat and Meat Products	...	...	...	...	147
Milk	...	...	...	...	717
Milk Products	...	...	...	...	125
Nut and Nut Products	...	...	...	...	22
Preserves	...	...	...	...	43
Poultry and products	...	...	...	...	9
Sauces and pickles	...	...	...	...	26
Slimming and Dietetic foods	...	...	...	...	3
Spices, herbs and condiments	...	...	...	...	62
Soups	...	...	...	...	6
Sugar and Sugar Confectionery	...	...	...	...	21
Vegetables	...	...	...	...	110
Other foods	...	...	...	...	49
Canned foods	...	...	...	...	53
					<hr/>
					2,045
					<hr/>

Summary of Adulterated Samples

Table 16 Summary of Milk Samples

Total number of Milks	...	...	...	717
Total number of Ordinary Milks	...	...	...	572
Ordinary Milks fat deficient	...	...	...	Nil
Ordinary Milks with Added Water	...	...	...	4
Ordinary Milks—poor quality	...	...	...	1

Table 16 (continued)

Total Number of Channel Islands Milk	...	145
Channel Islands with added water	...	Nil
Channel Islands fat deficient	...	Nil
Channel Islands—poor quality	...	2
School Milks	...	6
Milks submitted for antibiotic tests	...	482
Milks with positive test	...	6
% milks with positive reaction	...	1.2

Table 17

Ordinary Milk

<i>Lab. No.</i>	<i>Formal/Informal</i>	<i>Irregularity</i>
901	Formal	6.5% added water
902	"	4.0% added water
1262	Formal/CI Milk	0.05 IU penicillin per ml.
1267	Formal/CI Milk	0.25 IU penicillin per ml.
1268	Formal/CI Milk	0.20 IU penicillin per ml.
	Ordinary Milk	0.075 IU penicillin per ml.

Table 18 Summary of Adulterated Samples of Food

<i>Lab. No.</i>	<i>Description</i>	<i>Irregularity</i>	
1640	Ham	Contained 1,580 ppm sodium nitrate against permitted maximum of 500 ppm.	
1590	Lemon Curd Jam	Contained no egg	
1879	Home made Rum and Butter	Contained no rum	
	Fudge		
1089	Vinegar	Proved to be non brewed condiment	
1679	Pork and beef Sausages	Contained only 54.7% meat	Reported to be of 'poor quality'
S1002	Pork Chipolatas	8.5% deficient in meat	
1675	Pork Sausages	6.9% deficient in meat	
2305	Pork Sausages	Contained no preservatives despite a notice declaring presence of preservative	
1932	Concentrated Apple Squash	Contained 3,850 ppm cyclamic acid—non permitted sweetner	Old stock
1694	Margarine	Contained 11.2% butter, 1.2% in excess of statutory maximum	
1921	Shredded Suet	9% deficient in Suet	
1111	Meat Pie	13% deficient in meat	
2132	Shredded Suet	5% deficient in suet	
2772	Rum Truffles	Contained only a trace of alcohol which did not warrant the description 'Rum'	
1143	Cream Cheese	Contained only 38% fat against minimum of 45% fat	
2254	Malt Vinegar	Contained only 3.5% acetic acid whereas it should contain at least 4%	

Table 18 (continued)

<i>Lab. No.</i>	<i>Description</i>	<i>Irregularity</i>
2128	Kaolin and Morphine Mixture BPC	Contained 19·3% acid insoluble matter. BPC range is 13·8 to 18·4%
2611	Aspirin Tablets BPC	Contained 0·2% free salicyclic acid. BP permits a maximum of 0·15% -

Comments on Other Foods

Stewed Steak with Rich Gravy	Poor quality in respect of meat.
Fried Cod	Contained a nematode worm.
Bovril	Normal in all respects.
Potato Crisps	Heavy green mould growth.
Strawberry Jam	Contained two pieces of woody matter.
Tinned Carrots	Pellicle of mould growth probably due to canning fault.
Empty pie filling with FB	Contained a fragment of glass.
Stewed Steak in Gravy	Contained only 72% meat whereas the Standard is 75% for this product. It was, therefore, reported as of 'Poor Quality'.
Peas with foreign body	The object in this case proved to be the fruit capsule of the long headed poppy <i>Papaver Dubium</i> , probably gathered accidentally by a mechanical harvester. A single capsule would not have proved harmful.
Blackberries with foreign body	The body in this case was shown to be a fragmented specimen of a common black ground beetle (<i>Carabidae</i>).
Bread with foreign body	Ten slices of bread were submitted together with the remnants of a salmon sandwich which had been prepared from the same loaf. The foreign bodies were glass-like crystals of Struvite, a substance which sometimes crystallises out from the flesh of canned fish and shellfish. The crystals are harmless and had no connection with the bread.
Steak and Kidney Pies	These four pies were submitted as a result of a private complaint of poor quality. The average meat content for these pies was only $\frac{5}{8}$ oz. Whereas they should have been not less than $\frac{7}{8}$ oz. It was alleged that these pies had been misdescribed and should have been called 'Meat and Vegetable Pies'.
Apple Tart with foreign body	The foreign matter on this tart consisted of 16 black ants.
Butter	This was a $\frac{1}{2}$ lb pack of butter which had several discoloured grey patches on the surface. Microscopical examination revealed fungal hyphae and this proved the spots to be a simple mould.
Bread	This contained foreign matter which was shown by chemical and microscopical analysis to be a portion of a card or thick paper.
Butter	This sample was submitted because of the nature of its alleged smell. Chemical tests failed to reveal any rancidity, and it was found to be a butter with a naturally strong flavour.
Coleslaw	This sample was alleged to contain foreign matter, but close examination revealed the presence of a small piece of vegetable leaf, which was quite harmless.
Fresh Cream Coffee Dessert	This sample submitted informally contained a pellicle of green mould. It is a type of product which is prone to such attack and only has a short shelf life.
Ice Lolly	The flavour of this lolly was alleged to be 'tarty', but no undue acidity was found.

Tea	Symptoms of sickness were complained of after consumption of an infusion of this tea, but no toxic chemicals were found in the specimen.
Broad Beans	This was a 2 lb pack of broad beans which contained foreign matter, namely 12 fragments of wood weighing 18·9 grams.
Potatoes	A 3 lb polythene pack of potatoes contained $\frac{3}{4}$ lb of mouldy and rotten potatoes and were unfit for human consumption.
Cheshire Cheese	Alleged to have caused sickness, was found to be mouldy and, therefore, was not of the quality demanded.
Apple Pie	The upper crust of this pie had a patch of mould on it some 36 mm in diameter and was, therefore, not of the quality demanded.
Sliced Bread	Three slices of the bread contained foreign matter which was shown to be graphited mineral oil.
Corned Beef	This sample contained foreign matter which was shown microscopically to be the thorax and abdomen of the Calyptra Fly.
Bread	The foreign matter in this sample was shown to be a bundle of cotton fibres and, therefore, the bread was not of the quality demanded.
Baked Beans	Contained several small insects which were identified as the Bean Weevil, <i>Acanthoscelides Obsoletus</i> .
Dairy Milk Chocolate	This had pin holes in its surface in several places and a live larva and a dead adult beetle of the species <i>Stegobium paniceum</i> were identified.
Pork Pie	This contained foreign matter which was shown to be a strip of plastic $\frac{1}{2}$ " x $\frac{1}{6}$ " x $\frac{1}{25}$ " was not of the quality demanded.
Currant Bun	The foreign matter which was on this sample was analysed and shown to have all the characteristics of a bird dropping.
Malt Vinegar	The sample was cloudy and contained suspended matter which rendered the vinegar not of the quality demanded.
Sliced Liver Sausage	This had a rancid flavour and contained an excessive amount of free acidity. Comparison with fresh sausage and investigation of the effects of storage showed clearly that quality of the complaint sample had deteriorated by prolonged or inadequate storage or both.

Fertiliser and Feeding Stuffs Act, 1926

Table 19

	<i>Total</i>	<i>Irregular</i>
Fertilisers ...	46	4
Feeding Stuffs ...	195	22

The number of animal feeding stuffs included 57 samples taken in connection with a special survey to investigate the methods of compounding ingredients into complete feeding stuffs. The nature of the irregularities in the composition of the normal samples taken under the Act are shown in Table 20 together with the action taken.

Table 20

<i>Lab. No.</i>	<i>Description</i>	<i>Irregularity</i>
14	Tomato Fertiliser (I)	Low in soluble phosphate
15	Lawn Fertiliser (I)	High in soluble phosphate
111	Fertiliser	Low in soluble phosphate
119	8 Hi-P Fertiliser	Low in soluble phosphate
P43	Dairy Pencils	High in fibre
P46	Sow Slabs	Slightly low in protein

Table 20 (continued)

<i>Lab. No.</i>	<i>Description</i>	<i>Irregularity</i>
Q1	Crcep Feed Pellets	Slightly low in protein
P31	Dairy 15	High in Oil
P24	Bounty Beef	Copper high
Q5	Layers Mash	High in protein
P26	Turkey Starter	Nifursol low
Q12	Pig Concentrate	High in Oil
Q13	Piglet Super Creep	High in Oil
Q14	Piglet Rearer	High in Oil
Q43	High Yield Nuts	Low in Protein
Q47	Dairy Concentration	High in Oil
Q31	Dairy 15 with Urea	High in Oil
Q36	Sow Breeder	Low in Protein
A29	16% Dairy Standard Meal	Low in Oil
A43	Pig Rearing Nuts	Low in Copper
T1	Pig Rearing VA HLC	Low in Copper
T5	Severn Red Milk Nuts	Low in Protein
T10	Sow and Weaner Nuts	Low in Protein
T13	Dairy 15 with Urea	Low in Protein
T15	Dairy 15 246	Low in Protein
T17	Cattle 10 Pellets	High in Protein
T27	Early Weaning Calf	Low in Oil
T28	Super Wean Concentrate	High in Fibre
T29	Poultry Growers Concentrate	Low in Oil
		High in Fibre
T30	Heavy Hog Concentration	Low in Protein
		High in Fibre
T31	Special Beef Fattening	Low in Oil
		High in Fibre
T32	Cattle and Beef Concentrate	Low in Protein
T33	Provi Rear Concentration	High in Oil
T34	Poultry Concentrate	Low in Oil

Poisons and Pharmacy Act 1933

Five samples were submitted and comments are listed on their composition and labelling:

2435	Rust Eater	This product contained phosphoric acid and was correctly labelled.
2436	Blue Hardener	This was compositionally satisfactory and the labelling was adequate.
1361	PPH Concentrate Cleanser	It contained 1.89% available chlorine and 10.72% w/v as sodium hydroxide. It was exempt from the provisions of the Act because it contained less than 12½% caustic soda.
1362	Concentrated Windshield Cleaner	It contained ammonia and methanol. The amount of ammonia was only 1.1% and as the sale of methanol is not restricted, the article is exempted from the provisions of the Act.
1764	Kettle Descaler	This kettle descaler contained 95% sulphuric acid and, as such, is exempted from Part II of the Act. Nevertheless, the labelling was deemed to be quite adequate.

Trade Descriptions Act

In all, seventy-one samples were submitted during the year, the majority of which consisted of petrolcum products. The following table shows the types of sample received.

Table 21

<i>Total No.</i>	<i>Commodity</i>	<i>No. Irregular</i>
4	Petrol	2
6	Petrol and Oil	
30	Paraffin	
2	Antifreeze	
1	Bleach Concentrate	
1	Feeding Stuff with Vitamin	
5	Detergents	
1	Whole grain rice	
4	Distilled water	
3	'D' Water	
1	Domestic Tap Water	
3	Purified Water	
1	Stainless Steel Knife	
6	Whisky samples	
1	Cat Food	
1	Loft Insulation	1
1	Christmas Cracker	1
<hr/>		
71		
<hr/>		

Comments on Samples Received

Two of the four petrols submitted possessed infra-red spectra similar to those of the stated octane rating, but two others reputed to be of premium grade only had characteristics of a very poor 2 star fuel and was, in fact, little different from a diesel fuel.

The petrol and oil mixtures all had compositions close to the declared rates on the dispensing device, showing correct operation and the fuels would, therefore, be expected to operate satisfactorily in a two stroke engine.

Thirty paraffin samples were submitted to assess their British Standard Classification and examination of their infra-red spectra and smoke points indicated that in every case the fuels were correctly described either as C1, popularly known as 'premium grade' or C2 known as 'regular grade'.

Two anti freeze samples were examined and were found to be based on ethylene glycol, stabilised with sodium tetraborate to eliminate acid formation with its associated corrosion risk.

The detergents were checked for claims in respect of non toxicity, non causticity and biodegradability which, in view of their increasing domestic and industrial use, are all important considerations. The bleach was satisfactory and up to strength, but comments were made on the suitability of the container.

The whole grain rice contained 7.8% moisture, well within the normal range. Comments were made on other claims and it was also shown that pesticides were not detectable.

'D' water is a commercial description of water suitable for topping up lead acid car batteries at garages and the 'D' may stand for distilled, de-ionised or de-mineralised water. The composition of such water was compared with distilled water and domestic tap water in a survey conducted into the quality of 'topping-up' water. A further sample 'purified water' was examined whose description could cover any form of treated water.

The stainless steel knife was shown spectrographically to consist of iron with 12% chromium and 1% nickel and manganese. This composition would justify the description 'Stainless Steel'.

Six samples of branded Scotch Whisky were submitted to the laboratory for reference purposes. It was hoped that the subtle differences between them detected by the discriminating palate would also be revealed on examination of the higher aliphatic alcohols by GLC. It has become obvious that a great deal of further work will be necessary before adulteration of first grade spirits with inferior products can be detected by present analytical techniques.

The cat food contained foreign matter which was identified as part of a wire nail.

A material described as fire safe loft insulation was shown on analysis to consist essentially of expanded polystyrene sheeting fragmented in the form of granules. Once ignited, the material burned easily, and the description was, therefore, questionable.

A box of Christmas Crackers was examined following a complaint that one of the crackers produced an excessive detonation on pulling which had distressed a young child. On examination

of the chemical detonator in each cracker it was shown that there was a wide variation in the amount of material used, and some crackers had more than twice the average amount. These inconsistencies suggested that insufficient care had been taken in manufacture, and representations were made to the Home Office on this point.

Water and Effluent Analysis

The water laboratory has had its usual busy year examining a wide variety of drinking waters from the mains, wells and boreholes in addition to the water samples from streams, lakes and quarries.

Many effluents have been examined for quality before discharge into water courses and unfortunately, there were several which failed to meet the Royal Commission Standard for Bio-chemical Oxygen Demand or Suspended Solids.

No swimming baths samples were submitted.

Miscellaneous Samples

A wide selection of samples have been received through the Public Health Inspectors from the Urban and Rural Districts throughout the County. Once again, familiar patterns of foreign matter contamination are seen in foods such as moulds, insects together with some objects never encountered before.

Comments on Some Miscellaneous Samples

Material from Cement Asbestos flue pipe	Identified as a pipe sealing compound.
Lemonade	No toxic substances present but appeared to be a diluted lemonade.
Martel Brandy	Contents had the characteristics of a sweet sherry.
Energen Crispbread	Infested by two live specimens of the Australian Spider Beetle.
Bacon Roll with foreign matter	Foreign body was a dead millipede.
Etch-a-Sketch Toy	The powder in the toy was 100 per cent aluminium.
Part of loaf	Dark patches shown to be soiled dough.
Chicken and Mushroom Casserole	Foreign matter was part of a blood vessel from the chicken.
Custard	Sample consisted of custard powder, egg and milk. The offensive odour was due to the use of decomposing egg.
Milk Bottle with foreign body	This was a harmless patch of milk residues on the side of the bottle.
Rump Steak with foreign body	A number of pellets of rodent excreta were found on the meat which was covered with a film of white mould. It was obviously unfit for human consumption.
Scones	These were examined following a complaint of sickness by a member of the public, but there was nothing chemically detected in the scones.
Bread with foreign body Dust	This proved to be a fragment of wood, embedded in the crumb. This was a sample of dust from a filter on a seed dressing and bagging plant and was found to contain an organomercurial seed dressing equivalent to 0·1% mercury.
Dried Milk Powder	A discolouration on the contents of the can was due to rust.
Raspberry dessert	A cheesy smell from this sample was due to rancidity of the cream.
Corona Bottle with foreign body	The bodies were a rusty hair grip and a piece of wire.
Tablet for analysis	A doubtful looking tablet had been found in a Schoolgirl's hand-bag but fortunately it proved to be a simple saccharin tablet.
Pottery glazing powders	These were examined for total soluble lead to assess the hazards from thermal glazing.

Empty Drums labelled 'Sodium Cyanide'	A number of empty drums labelled 'Sodium Cyanide' were deposited on a public tip, but only one showed evidence of having contained the poison. Fortunately the residual trace did not have Public Health Significance.
Bark	A very dark discolouration on the bark was shown to consist of carbon black particles.
Spaghetti with foreign body	This proved to be a piece of knotted green string.
Tip samples	These were submitted to the laboratory for freedom from cyanides, and no trace was found.
Pork Luncheon meat	A purple discolouration on the exterior of the meat was due to a marker dye which had accidentally spotted onto the empty tin before filling.
Bread with foreign body	Fragments of graphite and wood were found which when compressed together made a short stub of pencil some $\frac{3}{4}$ " long.
Flowerheads and leaves	These were submitted in connection with the death of wild birds. The flowerheads and leaves were those of <i>Cotoneaster Simonsii</i> .
Loaf with foreign body	A brown discolouration was shown to be due to brown flour dough which had been mixed with the white flour dough.
Pork Pie	Small sausage shaped bodies present in the meat contained blood which gave them a dark and unattractive appearance. They occur naturally in meat especially pork and are referred to as Haemolymph Nodes.
Oily Water	The oil floating on the surface of this water was shown by infra red spectroscopy to be engine sump oil or contaminated fuel oil.
Blackbird	This was submitted for toxicological examination after a number of birds had been found dead. The bird had not been shot and pesticides were not present in excessive amounts.
Cornish Pasties	Black mould patches on the outer pastry crust showed that they were unfit. The inner filling was beginning to show signs of rancidity.
Smoke Stain and Scrubber Solution	These were submitted to determine the extent of an air pollution problem.
Stained Bed sheet	A discolouration appeared on bed linen after washing in soap powder containing a brightening agent. The bedsheet had not been properly rinsed and on drying in strong sunlight had yellowed.
Beef Chipolatas	These sausages had an isolated mould growth which was about three or four days old and the sausages were, therefore, unfit.
Wooden blocks	These were examined for heavy metals as part of an investigation into the background of a child suffering from a raised blood lead level.
Dust soil, paint scrapings and a toy	These were specimens of dust soil, various paint scrapings and a toy brought in as additional material for investigation in connection with the local blood lead survey.
Beads	These were brought in for identification as a result of the recent publicity on <i>Abrus Precatorius</i> peas. However, these beads were not of the <i>Abrus</i> variety.
Peppermint flavour lolly	This lolly contained the appropriate amounts of Vitamin C and preservative and despite being slightly discoloured it compared favourably with the same brand of orange lolly which had been recently manufactured.

Pellets	This sample was taken from window ledges of some houses, where a deposition had appeared in the form of brown pellets. They consisted mainly of iron and silica, and they could well have originated from a garden bonfire or a domestic chimney recently converted to gas heating.
Blackcurrant Juice	The colouring matter in this juice had been affected by strong light and had faded. Nevertheless, its Vitamin C content and flavour were satisfactory.
Material and Dust	These were sent in as a result of a yellow stain which had appeared on washing which had dried in sunlight. This was another instance of insufficient rinsing of the wash. The dust had no connection.
Plain Flour	This had been infested with larvae of the Ephestia moth. One dead larva was observed together with webbing and insect excreta.
Grease	This had been dumped in a disused railway cutting and consisted of beef or mutton-fat mixed with chalk. This could well cause sickness with domestic pets.
Bacon	A complaint had been made about the smell and taste of the bacon, but it proved to be quite normal. As the complainant was a lady, the offending flavour may have been 'Boar Taint'.
Pasties	The offending smell of the filling of these pasties was due to the unusual pungency of the onion present. There was no rancidity and the pasties were quite fit.
Paint residues and Thinners	These contained xylene residues, and since it was intended dumping these materials on a council tip, a warning was sent out pointing out possible fire risk and contamination of local water courses.
Beads	These proved to be the toxic Abrus beans.
Slices of Bread	Several irregular strands of discoloured matter in the slices proved to be portions of scorched dough.
Foreign body in bread	A small piece of dark matter was shown to be scorched dough and there was no evidence of oil or rodent excreta.
Sample of Cloth	The cloth had been used to collect some black smuts seen floating through the air and settling on curtains. They proved to be small specks of soot.
Foreign matter in Sausage	A hard object in this sausage was shown to be the fibre point of a fibre tipped pen. Residues of blue dye were present from the ink in the tip and some had stained the sausage meat.
Bottle of Lager	Submitted as a result of an illness proved to be chemically satisfactory and was unlikely to have caused the symptoms complained of.
Crepe Paper	These samples were examined for lead tissue circles and all showed acceptable low levels.
Tissue circles	Ranging from 40 to 60 ppm of the lead.
Poster Paint	Red and Black Paint Scrapings contained 55,000 ppm and 950 ppm of lead respectively, the former being well in excess of the 5,000 ppm lead permitted by the Toys Safety Regulations.
Window sill deposit	This brown deposit had some of the characteristics of heated flue dust or garden bonfire ash.
Bottle of milk with foreign body	This proved to be a beer bottle cap which had been forced into the bottle.
Bag of flour with foreign body	Proved to be book lice whose normal habitat is paper.

Deposit from cold water system (domestic)	Was shown to be hardness scale and fragments of corroded metalwork.
Tea break rusks with foreign matter	Was shown to be a collection of live and dead insects, identified as the Biscuit Beetle or Drug Store Beetle.
Part loaf with foreign body	Was identified as a 1" wire nail, most probably baked in the bread.
Insects from Window Boards	Proved to be a species of Springtail (Collembola) very common in nature and which acts as scavenger of the soil, but quite harmless.
Beads	Proved to consist of Abrus Precatorius beans and were, therefore, destroyed.
Cooked Sliced Shoulder	Alleged to have an objectionable smell and taint showed no chemical abnormalities which would account for this.
Soil Samples	These were examined for levels of sulphate prior to concrete casting. The first soil did not require special precautions, but the second needed sulphate resisting Portland cement.
Local Farmhouse Cider	This was submitted because of cloudiness. Microscopical examination revealed the presence of strands of yeast cells suspended in the cider.
Danish Pork Luncheon Meat	Discolouration in the meat proved to be harmless sulphide staining.
Paint from Child's Cot	This paint contained 2,200 ppm of lead, well inside the maximum of 5,000 ppm for 'lead free' paints and also that same maximum set down by the Toys Safety Regulations for paint on toys.
Cyanide	This material was received, checked analytically and disposed of by chemical treatment.
Crayons	These were examined for lead and cadmium and all showed acceptable low levels.
Coffee Drink from Vending Machine and Coffee Extract	These commodities were examined as a result of complaints about the taste of the drink. Metal levels were very low, and the probable cause of the off-flavour was the quality of the skim milk powder used.
Children's Paint brushes	As a result of recent publicity, it was feared that there may have been undue amounts of heavy metals in the paint coating on the handles of these brushes, but levels of metals were very low and the brushes were quite safe for children to use.
Cheese Biscuits with foreign body	Microscopical examination showed that the foreign body was, in fact, charred biscuit particles, and there was a complete absence of rodent hairs or insect infestation.
Apple and Blackberry filling with foreign body	This was shown to be a whole insect with part of another, and they were identified as the Forest bug.
Soft Margarine	This sample was submitted because of illness allegedly as a result of consumption of the margarine. There was no rancidity or incipient rancidity present and trace metals were of a very low order. There was, therefore, no chemical evidence to support the allegation.
Bacon	This sample consisted of uncooked bacon slices and was examined as a result of its alleged 'strong' flavour. Chemical tests showed that rancidity had reached its first stage of development and this may be objectionable to the sensitive palate.

REPORT ON THE WORK FOR THE CITY OF GLOUCESTER

Services to Gloucester City in common with the County cover a very wide range of problems in addition to the samples submitted for enforcement purposes. I am pleased to record that here as with all the other authorities served the laboratory enjoys the most cordial relationships with the City's officers.

Summary of Examinations

Food and Drugs Act 1955					
Milk	...	...	...	...	20
Food	...	...	...	...	315
Drugs	...	...	...	...	4
Port Health	...	...	...	...	Nil
National Pesticide Survey	...	...	...	...	2
Trade Descriptions Act	...	...	...	...	3
Consumer Protection Act					
Toys Safety Regulations	...	...	...	...	1
Rag Flock Act	...	...	...	...	Nil
Poisons and Pharmacy Act	...	...	...	...	Nil
Fertilisers and Feeding Stuffs					
Fertilisers	...	...	...	...	13
Feeding Stuffs	...	...	...	...	6
Water Analysis					
Swimming Baths	...	...	...	...	12
Water and Effluents	...	...	...	...	15
Environmental Pollution					
Deposit Gauges	...	...	...	...	12
Lead Dioxide Candles	...	...	...	...	Nil
Continuous Smoke	...	...	...	...	Nil
Special Survey Avonmouth	..	...	...	...	Nil
Miscellaneous					
General	...	...	...	...	9
District Inspectors	...	...	...	...	Nil
Blood Lead Survey	...	...	...	...	Nil
Chlorination	...	...	...	...	13
				TOTAL	425

Table 22 Summary of Foods and Drugs

Alcoholic Beverages	...	...	...	...	23
Non alcoholic Beverages	...	...	...	...	25
Cereal and Starch Products	...	...	...	...	3
Cheese and Cheese Products	...	...	...	...	11
Drugs	...	...	...	...	12
Fats and Oils	...	...	...	...	21
Fish and Fish Products	...	...	...	...	10
Flavourings and Colourings	...	...	...	...	1
Flour and flour Confectionery	...	...	...	...	14
Fruit	...	...	...	...	7
Meat and Meat Products	...	...	...	...	39
Milk	...	...	...	...	21
Milk Products	...	...	...	...	35
Nut and Nut Products	...	...	...	...	2
Preserves	...	...	...	...	7
Poultry and Products	...	...	...	...	1
Sauces and Pickles	...	...	...	...	4
Slimming and Diatetic foods	...	...	...	...	2
Spices, Herbs and Condiments	...	...	...	...	8
Soups	...	...	...	...	7
Sugar and Sugar Confectionery	...	...	...	...	2
Vegetables	...	...	...	...	1
Other foods	...	...	...	...	8
Canned food	...	...	...	...	53
					317

All the milk samples had compositions which satisfied the Sale of Milk Regulations and the Channel Islands and South Devon Milk Regulations.

Table 23 Irregular Samples

<i>Lab. No.</i> (1st Quarter Sample)	<i>Sample</i>	<i>Irregularity</i>
	Butter	Contained 16·3% moisture whereas maximum allowed by Regulations is 16·0%.
4868	Instant Low Fat Milk	Contained 5·8% moisture whereas maximum allowed by Regulations is 5·0%.
4870	Starch reduced bread	Contained 73% carbohydrate whereas Regulations permit a maximum of 50%.
4872	Stewed Steak in Gravy	Contained only 70% meat whereas regulations prescribe a minimum of 75% meat for this product.

Comments on Other Foods and Drugs

Coca Cola	This gave no evidence of any significant amounts of lead, zinc or arsenic.
Grapefruit Juice	This contained lead and tin both well within the Statutory and recommended limits.
Bread	The small portion of dark foreign matter in one slice was a fragment of soiled dough.
Wheat grain	Somewhat unusually this grain contained ergot. The amount was assessed at 0·005 per cent w/w, well within the tolerance level suggested by the MAFF in 1964 of 0·025 per cent.
Tomato Soup	This appeared to bear little resemblance to a tomato product. Lead and tin were both excessive which together with the condition of the product warranted condemnation.
Butter	This product was not rancid as was alleged.
Beefburger	This was submitted with a complaint relating to taste and colour of the filling. The taste appeared normal with onion predominant. The bright pink colour was due to the excessive use of a colour Red 20. This is a permitted food colour and obviously too much had been used.
Pineapple Slices in Syrup	This sample contained 410 ppm Tin, well in excess of the recommended maximum of 250 ppm for canned goods.
Fruit Salad	Contained 115 ppm tin.
Canned peeled tomatoes	Contained 85 ppm tin.
Canned peeled tomatoes	Contained 100 ppm tin.
	The above three samples contained an amount of tin, although within the recommended maximum of 250 ppm for canned goods, which showed some corrosion was in progress and it was advised that this stock was consumed in the near future.
Callaloo	This canned product contained 1,100 ppm of tin, far in excess of the recommended maximum of 250 ppm for tin in canned foods.
Callaloo	This sample was a follow up sample to the previous sample and comprised of three cans. The tin contents of these cans were 260, 270 and 65 ppm respectively. Although these levels were much less than sample above, two cans were still over the recommended maximum.
Hair Dye	These were, in fact, hair lighteners and one was the subject of a complaint alleging skin irritation. The other sample was an unopened control sample. Both preparations were based on peroxides and this could cause distress to people with an abnormally sensitive skin. Both samples were correctly formulated, but it was felt that the manufacturers should include a cautionary notice on the label of the product.

Milk	This milk was slightly alkaline, indicating possible contamination with caustic bottle rinsing fluid. Fresh milk has a very slight natural acidity.
Dripping	Foreign material in this sample proved to be a black mould growth.
Mustard	This was examined as a result of a complaint that it may have been responsible for sickness and diarrhoea. Analysis revealed no chemical abnormalities which would account for the symptoms.
Rusk Fingers	These biscuits had been sold four months after the date marking on the packet, which would not guarantee that the vitamin content of the biscuits complied with the statement also on the packet. Analysis showed that the activity of the B group of vitamins was almost twice the minimum amount declared, and therefore the purchaser would not have been prejudiced with this particular packet.

Liquid Egg

This commodity, widely used in food manufacture and the catering industry is subject to the Liquid Egg (Pasteurisation) Regulations, 1963, which prescribes a test for the presence of alpha amylase, a natural enzyme in egg, which if positive proves that pasteurisation has not been applied or has been inadequately performed.

Out of five samples, one failed the test.

Fertilisers and Feeding Stuffs

Fertilisers	...	...	...	13
Feeding Stuffs	...	...	...	6
				<hr/>
				19
				<hr/>

All six animal feeding stuffs were satisfactory and the fertilisers were compositionally in order. The statutory statement of one fertiliser, however, failed to give the proportions of soluble and insoluble phosphoric acid despite its compliance with the total phosphoric acid which was declared.

Water Effluents and Swimming Bath Waters

Table 24

Water and Effluents	...	...	15
Swimming Baths	...	...	12

The quality of swimming bath waters were in the main satisfactory showing that treatment of the pools is in order.

The fifteen drinking waters and effluents call for no special coment.

Miscellaneous Samples

Dust	This was examined microscopically for alien fibres. Only material of a domestic nature was found.
Pork Luncheon Meat	Black hairs in this sample were confirmed microscopically as black pig bristles and although undesirable in a product of this quality could not be truly classified as 'foreign matter'.
Rust from Timber Drying Oven	These samples were submitted in connection with the use of a commercial preparation which contains copper, arsenic and chromium and is used on timber.
Residue from sump	Levels of these substances found in the Specimens did indicate that there was some local contamination.
Dust sweepings	Contained 95% Pulverised fuel and 5% Road Dust.
Dust sweepings	Contained 75% Pulverised fuel and 25% Road Dust, brick and paint fragments.
Dust sweepings	Contained 75% Pulverised fuel and 25% Road Dust and had an oily consistency.

Part of Car Boot Lid

This was submitted as a result of a complaint that corrosive particles were depositing defacing car paint work. However, microscopical examination revealed only the effects of corrosion, the surface of the paintwork being covered with minute pits with areas of rust undermining the paint. Negative chemical tests were produced on examination for acids and phosphates.

Serve Chem C-21

This sample was submitted as a result of a complaint that the product was unsuitable for removing oil stains from a wooden block floor. The sample contained 18.7% hydrochloric acid and a positive reaction was obtained for anionic detergents. The application of this product for the removal of oil was quite wrong, being designed more for the removal of calciferous deposits.

Baby's Rattle

This baby's toy was examined on request for the presence of celluloid, a highly flammable plastic, but chemical test showed quite definitely that celluloid had not been used in the manufacture of the toy.

Demineralised Water

Both waters had virtually no hardness salts dissolved in them,

Water for battery top-up

showing that demineralisation had been efficient and the waters were quite suitable for topping up batteries.

Demerara Sugar

This sample was submitted in order to find out whether the product was genuine demerara, produced in the traditional way.

Environmental Pollution

The laboratory has had another active year in this field, and monitoring of the environment, particularly for aerial pollutants, has increased significantly. Techniques have been developed for estimating trace elements such as lead, zinc and cadmium and these are so sensitive that traditional methods using lead dioxide paste for estimating sulphur dioxide in the air have been discontinued to prevent contamination within the laboratory. To compensate for this, a whole network of devices has been deployed by the Local Authorities to monitor sulphur dioxide and smoke which permit daily variations to be observed.

Rainwater still proves to be a useful means of examining the quality of the air, and in addition to the traditional sites which have monitored domestic air pollution since 1935, a number of special gauges have been sited to measure fallout of heavy metals, industrial wastes and acidic fumes from chemical scrubbers.

The laboratory has been actively represented at meetings of the Special Working Party, under the chairmanship of the Medical Officer of Health, where representatives of the D.O.H.S.S., M.A.F.F., Department of Trade and Industry, Local Chemical Industry, the University of Bristol Sabrina Project Team have assessed the analytical data produced by the department. This work has been discussed along with results produced by the Sabrina Project, Commonwealth Smelting Corporation and the M.A.F.F. Valuable contributions have been made by the Veterinary Officer of Bristol Corporation. It is quite apparent that the problem is not a simple one and that there are many parameters involved, but it is essential that this work goes on.

Early in 1972, the Bristol Medical Officer of Health initiated along with other Authorities a survey of the levels of lead in the blood of young children and it was envisaged that over a thousand children might be involved. Quite apart from the distressing experience to the child of having a large venous specimen of blood taken, it represented an enormous analytical task using conventional techniques for the determination of lead in blood where normally some 10 millilitres of blood are required. Fortunately, a micromethod for lead using only a drop of capillary blood had been developed by the Chemical Division of the Department of Employment and after a careful appraisal of apparatus which was available at the time, equipment costing £5,000 was flown over from Australia and within a week of ordering, the apparatus was installed and was being calibrated. The instrument was adapted and ready for use, thanks to the voluntary efforts of the analysts who had put in long hours at night and in the early morning in order to meet the start of the survey and during the year specimens from 1,337 children in Bristol and its immediate environment in Somerset, and 106 children from Gloucestershire were examined.

The technique has been adapted most successfully, giving reliable and reproducible results and the laboratory is now capable of giving local hospitals a 'same day' result on a blood lead estimation, whereas in the past findings often took up to three days using conventional methods.

The saving in time and money has amply repaid the initial expenditure and effort and has endorsed the wisdom of the initial choice of technique.

Deposit Gauges

Table 25

City of Bristol

Mean Deposit per month (Tons per square mile)

	<i>City Centre</i>	<i>Shaftesbury Crusade</i>	<i>Zoo</i>	<i>Blaise Castle</i>	<i>Central Clinic</i>
1964	21.90	22.78	11.91	10.33	—
1965	11.00	12.17	8.37	9.00	16.43
1966	9.16	10.50	5.92	8.84	16.18
1967	11.37	14.28	9.10	11.00	14.55
1968	11.00	12.40	8.17	11.59	14.56
1969	10.19	11.83	7.84	9.33	11.96
1970	11.28	12.73	9.33	10.08	14.17
1971	No data	12.59	6.84	8.60	12.54
1972	No data	9.51	5.51	6.24	11.27

Data are not available from the City Centre because of dust interference from the demolition of the CWS Building.

Other sites have demonstrated an encouraging downward trend.

Table 26

County of Gloucester (Thornbury R.D.)

Mean Deposit per month (Tons per sq. mile)

	<i>Brynleaze Farm</i>	<i>Walning Farm</i>
1965	7.98	5.84
1966	4.87	7.48
1967	8.15	7.98
1968	10.21	9.11
1969	7.71	6.95
1970	10.83	7.92
1971	8.55	8.81
1972	7.31	7.97

Table 27

City of Gloucester (Rikenel)

Mean Deposit per month (Tons per sq. mile)

1965	8.67
1966	10.00
1967	10.59
1968	10.67
1969	6.45
1970	7.20
1971	7.17
1972	6.07

Table 28

Annual Rainfall (Inches)

Central Health Clinic	...	...	30.45
Shaftesbury Crusade	...	...	29.50
Zoological Gardens	...	...	33.91
Blaise Castle	...	...	32.79
Brynleaze Farm	...	...	28.62
Walning Farm	...	...	32.82
Rikenel, Gloucester	...	...	23.77

GAS LIQUID CHROMATOGRAPHY AND INFRA RED SECTION

Samples of considerable variety were submitted to the section, the bulk of which covered environmental matters such as pesticide residue levels and examinations relating to the regulation requirements of the Food and Drugs, Pharmacy and Poisons, and Trade Description Acts.

Many samples required considerable investigational work, often involving the development of analytical procedures and sufficiently sensitive instrumental techniques.

The total number of samples examined by the section was 803. In addition, partial examinations have been carried out on many other samples discussed elsewhere in the report.

Fifty-six samples were examined for cyclamates including canned fruit, soft drinks of which one was positive, and thirteen samples of toothpaste, all of which were satisfactory.

Thirty-one samples of edible fats and oils had satisfactory levels of antioxidants.

Sixty-four samples of various canned fish were analysed for methyl mercury as a follow up to the 123 analyses carried out during 1971. Six tuna samples during 1971 contained amounts in excess of 0.5 ppm whereas during 1972 no sample contained methyl mercury at this level.

A summary of the pesticide residue samples is discussed below :

BRISTOL

Sixteen national pesticide samples were submitted for the 1972 survey and were examined for organo-chlorine and organo-phosphous residues, thiocarbonates and mercury.

The table shows the samples and number examined :—

<i>Sample</i>	<i>Number</i>	<i>Sample</i>	<i>Number</i>
Apple	6	Grapefruit	2
Pear	2	Tomato	2
Peach	2	Orange	2

Samples with significant levels were as follows :

Apple

One sample of unknown origin contained 0.12 ppm DDT

Pear

One sample from the Cape contained 1.49 ppm 'Kelthane' (dicofol), an organo-chlorine insecticide.

GLOUCESTER CITY

Two samples were submitted for the 1972 national pesticide survey—a grapefruit and an orange. No pesticide residues were detected.

GLOUCESTER COUNTY

Twenty-one samples were submitted for the 1972 national pesticide survey and were examined for organo-chlorine and organo-phosphous residues, thiocarbonates and mercury.

The table below shows the samples and number examined :—

<i>Sample</i>	<i>Number</i>	<i>Sample</i>	<i>Number</i>
Apple	6	Grapefruit	2
Pear	6	Tomato	2
Peach	1	Orange	4

Samples with significant levels were as follows :—

One imported sample of apple contained 0.02 ppm DDT together with 1.90 ppm 'Kelthane' (dicofol) an organo-chlorine insecticide.

In addition to the National Pesticide samples a further 455 samples were examined for residues of organo-chlorine pesticides throughout the year. Three hundred and eighty-four samples were analysed for the Gloucester County authority, sixty-nine samples (including five Port Health samples) for the Bristol authority and two samples for Gloucester City.

The most significant results are listed below :—

1.96 ppm Dicofol (Kelthane) in a sample of apples.

Two samples of celery contained gamma-BHC at level of 0.13 and 0.20 ppm.

A radish sample contained 0·20 ppm gamma-BHC
A sample of dried apricots contained 0·25 ppm pp' DDT
A feeding stuff sample—'Poultry superchick' contained 0·24 ppm gamma-BHC

Report of the Field Officer

Field and Workshop Report

Field work has continued much as in previous years being divided between the two major authorities. In some cases of intermittent pollution tracing the source has been unsuccessful.

Some of the unusual problems which have been referred to the Field Officer with varying success are as follows:

Bristol—Oil pollution was found on the ornamental duck pond at a children's home. There was a new oil-fired installation for central heating in some adjacent houses, but no positive leakage could be detected.

Corrosion in the calorifiers supplying domestic hot waters in a block of flats has been troublesome for several years. About five years ago a chemical feeder was installed under our guidance to inject a proprietary inhibitor into the flow. Careful checking and annual inspection of the interior of the calorifiers confirms doubts as to the effectiveness of such treatment and this has not been discontinued.

In one of the recently built schools there is considerable 'spalling off' of the top coat of plaster which almost certainly was due to the use of stale materials by the original plasterers.

At an official garage and vehicle maintenance establishment complaints of car exhaust pollution by the storekeeper proved to be impossible to substantiate, and the responsible officers agreed that he was probably suffering psychosomatically.

Road widening opened up the side of an old chemical works tip and the suspected presence of arsenious compounds was confirmed. However, amounts were small, the compounds were relatively harmless and they were reburied where they are unlikely ever to be disturbed.

The paddling pools in Blaise Castle and St. Andrews Park have been supervised as in previous years.

Gloucestershire—In the county, work was not quite as intensive as previously, but many problems were referred to the department, mostly from the local authorities. A selection of field activities included:

Damp walls in boiler houses at two schools—in one case rising damp, in the other, presence of ammonia proved the source to be a cracked urinal stall on the other side of the wall.

Investigations were made into two separate cases of toxic wastes on rubbish tips, also advice and monitoring on the clearing up of toxic wastes in a closed down plating shop.

Investigation, advice and experimental work to assist the local authority in the control of smell nuisance caused by effluent from a bacon factory.

Deposits of a flaky red ash over a small rural residential area completely eluded all efforts to find the cause.

A small mansion in a remote district is in the course of restoration by a commune of young people. Considerable anxiety has been felt by the local health authority concerning the private water supply and chlorination procedures have been recommended.

Field work common to all districts

'Blood Lead'

The transport of specimens requires very careful techniques and has occupied a considerable time. Visits have been made to other establishments to study comparable techniques of analysis.

On occasions journeys have been made to collect dangerous chemicals from schools etc. These are being delivered for ultimate safe disposal as necessary. Radioactive waste has been monitored prior to final disposal under rubbish tips.

Workshop—The special carbon rods required for Atomic Absorption analysis are now being machined from spectrographic carbons at a fraction of their previous cost.

A hollow punch with spring loaded plunger has been produced which facilitates the cutting and placing of 2 mm paper discs in the atomic absorption apparatus.

Several discs have been designed and made for use in production of salt tips in a 25 ton press. These salt tips are made of expensive materials and are used in the very sensitive gas chromatography apparatus.

Other Activities

Attendances in Court as witnesses giving expert evidence were down in number this year, Mr. Whittle appearing four times and Mr. Taylor three times. However, the number of lectures given by members of staff increased markedly particularly in those given in the evenings to members of the public.

Mr. Whittle gave five lectures to Public Health Inspectors at Bristol Polytechnic and four talks to University students and Women's Institutes on the 'Work of the Public Analyst'. This always is a popular topic and provides quite a valuable feedback of information from the housewives. In addition, Mr. Whittle gave two lectures to students taking the Diploma of Public Health Course.

Mr. Taylor also gave two lectures to the Diploma of Public Health Students and four to Public Health Inspectors on the Measurement of Air Pollution. He also lectured to members of the public through Women's Institutes, Young wives etc on fourteen occasions, and three times to University students.

Mr. Dickes gave two lectures on the 'Chemical Aspects of Wine-Making' and one at an S.C.I. Meeting in Dublin and the other at Swansea for the Chemical Society Ladies' Evening (West Wales) and both were very well received.

Messrs. Whittle and Taylor attended ten meetings concerned with local problems of environmental pollution which included Technical Working Party Meetings, Windeyer Enquiry and Ministerial Enquiries at which Mr. Taylor gave evidence.

Mr. Taylor attended a Conference on Lead in January at the Reading Room, Regents Park, London, at which many valuable papers were read and discussed, and he also attended the weekend Annual Conference of Scientific Intelligence Officers at Exeter University.

Since my arrival in Bristol in mid September, I have attended a Local Government Reorganisation Seminar and paid visits to Bristol Waterworks and the Royal Infirmary, Bristol.

There have been two important Zone meetings of Public Analysts' Laboratories in the South West during the year, the first being in the City of Cardiff where Mr. Whittle and Mr. Taylor attended with staff and later at Caerleon, Monmouthshire where I attended with staff. These are extremely valuable meetings with our local colleagues, which gives us an opportunity to discuss informally our analytical problems, thus saving much unnecessary duplication of work.

A poignant moment in the history of the Bristol Laboratory occurred in June when Mr. Whittle retired after 25 years as Public Analyst. Many of his colleagues in the profession and in local government gathered at Canynge Hall to make their appreciations known and to make presentations to him. Well over a hundred people attended and after formal speeches were made, he was presented with a wrist watch from his colleagues and personal friends in the profession, a golf bag from the Gloucester County Weights and Measures Inspectors, and a cheque from his many other colleagues in Local Government. Fellow Chief Officers presented Mr. Whittle with a selection of golf clubs at his retirement dinner held in the Council House later in the year.

VETERINARY OFFICERS REPORT 1972

J. Allcock, B.V.Sc., M.R.C.V.S.

(Inspector under Diseases of Animals Act)

Pet Animals Act 1951

Thirty three premises were licenced for the sale of pets under this Act.

One successful prosecution was brought for breaches of licence conditions.

All premises were visited during the year and in general conditions were satisfactory. Lapses in hygiene and cleanliness always seem to occur in the same establishments. On more than one occasion new pet shops have opened without any licence and it is only by 'grape vine' information and general observation while travelling around the City that one becomes aware that premises are being used as a pet shop.

One case of ornithosis in a parrot purchased from a pet shop within the City was seen during the year. This parrot was a newly imported bird and for a period of some weeks prior to its death had been kept in a house with several children. Happily there was no human infection—but this was a fortunate chance. It is a most regrettable state of affairs that psittacine birds are still freely imported with all the attendant dangers of introducing virulent strains of ornithosis.

Boarding Establishments Act

There are only two premises licenced under the Act. There could well be more boarding kennels and catteries within the City but unless a licence is applied for it is almost impossible to prove that a business of boarding animals exists.

Riding Establishments

Two riding establishments are licenced. Both have been inspected during the year.

Notifiable Diseases

Towards the end of the year—December 11th—a new notifiable disease made its appearance in the country—Swine Vesicular Disease. This is a relatively mild disease of pigs only, but is clinically indistinguishable from Foot and Mouth Disease. Thus its control and eradication is of supreme importance if the control of Foot and Mouth Disease is to be a practical possibility. The disease was almost certainly brought into this country by illegally imported meat—then transmitted to pigs by improperly treated swill and finally spread very widely via pigs in markets being resold with a complete disregard of all restrictions and isolation requirements.

Movement controls were imposed on a large part of the country, and all markets cancelled and pigs moved only on licence. The infection continued well into 1973.

Pollution

I have attended all the meetings of the Atmospheric pollution sub-committee held during the year and have routinely sampled cattle in the Avonmouth area for lead.

General

Reorganisation of Local Government and entry into E.E.C. are going to change the pattern of veterinary work very much in this country. In 1973 all poultry meat for export will have to be inspected under veterinary supervision and by 1976 this directive will apply to poultry meat for home consumption.

It is almost certain that red meat inspection will also become subject to veterinary supervision for home consumption (meat for export has always been so inspected).

The reorganisation of Local Government means that certain statutory duties at present performed will be the responsibility of the county tier under the post 1974 organisation. Discussions on the future structure have occupied some considerable time during the year.

Finally my thanks to the Police, the Public Health Inspectors, numerous other officers of the City and all those other people who help in many large and small matters.

